EDUCATION IN THE COMMONWEALTH

EDUCATION IN DEVELOPING COUNTRIES OF THE COMMONWEALTH
REPORTS OF RESEARCH IN EDUCATION

COMMONWEALTH SECRETARIAT

EDUCATION IN THE COMMONWEALTH

Number Six

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COMMONWEALTH SECRETARIAT
MARLBOROUGH HOUSE,
LONDON, SW1Y 5HX.

Published by

THE COMMONWEALTH SECRETARIAT

To be purchased from

THE COMMONWEALTH SECRETARIAT

Publication Section

Marlborough House,

London, SW1Y 5HX.

ISBN 0-85092 - 065-5

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Introduction

In 1968 the Education Division of the Commonwealth Secretariat compiled information on current research in some Commonwealth countries, which it published in a booklet under that title. The aim of the publication was to enable persons engaged in research projects, or having educational problems similar to those being investigated, to make contacts with one another and exchange information, ideas and experience.

The booklet was so well received that the exercise was repeated in the year 1969, and continued in 1970/71 as a regular series under the title "Research Register" to be published bi-ennially.

As an extension of the idea of the Research Register reports on some of these projects are being published for the first time this year. There are 42 reports contained in this volume; 36 of these carry cross references to the Research Register where they are listed; six are not yet listed.

These reports are condensed versions of the full reports on the projects. They cover a wide range of topics all related to problems in education, and are broadly classified for presentation in two parts. Part I deals with matters affecting educational policy and planning, history and development, administration and organisation, economics and techniques; Part II deals with human behavioural patterns and characteristics.

It is hoped that this publication will serve the purpose for which it is intended. Comments and suggestions for the improvement of future editions of the 'Report' will be welcome.

The Education Division of the Commonwealth Secretariat wishes, on behalf of all those who will use this volume, to thank the research workers who have made this publication possible by submitting reports on their work.

PART 1

POSITIVE DISCRIMINATION IN EDUCATION FOR INDIA'S SCHEDULED CASTES: A REVIEW OF THE PROBLEMS 1950-1970

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Summary

Reference: Vol.2 (1969) A19 (p.11)

Scheduled castes and tribes comprise nearly 20% of India's population of 470 million. Traditionally they have been outside the social and caste system with access to very little of the benefits and security provided by the institutionalised religion. In 1950 when the Constitution of India was promulgated special guarantees were worked in to effect social justice to this sector of the population. As has been remarked, "India is the only country where government employment quotas and educational benefits have been established right across the board in order to speed the economic and social elevation of specific groups from the lowest levels of the country's population".

Reservation and special quotas in education, employment in parliament and legislatures were designed to enable the scheduled castes and scheduled tribes (some 500 odd castes and tribes) to participate and integrate with the rest of society. The constitution specified a 20 year period for this process. Zachariah in his analysis points out the undoubted social justice and gains by positive discrimination which has been achieved. At the same time there has developed a class of persons who have benefited from 'discrimination', and now seem to have a vested interest in a continuation of the special facilities. In a country where poverty is the greatest disability the time has possibly come when section wise preferences should be replaced by positive discrimination on the basis of economic deprivation and need.

Note: The report that follows is a slightly amended reprint from Comparative Education Review Vol.16, No.1 (February 1972)

Report

Background

The term "Scheduled Castes" is a legally created classification which makes sense only "in a context of statutory provisions, government programmes and politics". The Scheduled Castes, unlike other backward classes, "are specified by the President of India in the first instance and can only be amended by an act of Parliament."

The first official term for some of the disadvantaged groups in India was "Depressed Classes" which at that time included untouchables and a few other groups. In the 1931 Census of India, the government made a special effort to draw up a "schedule" of castes which were entitled to benefit from certain special arrangements. The 1935 Government of India Act used the complete term "Scheduled Castes" for the first time. They form part of the "backward classes" mentioned in the 1950 Constitution, the others being Scheduled Tribes, Denotified Tribes, Nomadic Tribes and other Backward Classes. This study deals only with the Scheduled Castes. The term "Scheduled Castes" still means what was meant in the 1930's: those groups in the Hindu social order traditionally regarded as untouchable for ritual, i.e., socio-religious, reasons.

Indian social structure bears very little relation to the traditional philosophical division of society into groups. In fact, the practice of caste is meaningful only in specific localities and in terms of specific subcastes. Despite this, the groups which have been called untouchables have suffered extremely severe discrimination in every part of India. They performed very necessary social functions (such as nightsoil removal) which, however, were defined as ritually impure. As the result of such a socio-religious definition, members of these groups were marked off as people whose touch pollutes other persons and many regulations were created to keep such groups socially separate. Whereas, within the caste structure, some subcastes could move up the social scale by imitating the upper castes in food habits, dress and so on, untouchables were absolutely forbidden to aspire for such upward group mobility.

Scheduled Castes, then, are by and large the former untouchables. I say "by and large" because the concepts of untouchability and ritual pollution are so complex that they have evaded simple and clear legal formulation. The reference to former untouchables or ex-untouchables takes note of the legal abolition of untouchability (Article 17) in the 1950 Indian Constitution.1 Indeed untouchability is punishable on the basis of the Untouchability Offences Act of 1955.

Positive Discrimination

Most constitutions of the modern world contain statements to the effect that there shall be no discrimination based on race, colour, religion, etc, with additional provisions regarding the State's responsibility to promote the general welfare of the people. Some constitutions or countries, for historic or other reasons, have justified preferential treatment for certain groups: war veterans in the United States have been the beneficiaries of such treatment; after gaining independence, Malaysia established a policy favouring Malays in matters of employment. But, as Harold R. Isaacs points out (in India's Ex-Untouchables):

> India is the only country where government employment quotas and educational benefits have been established right across the board in order to help speed the social and economic elevation of specific groups from the lowest levels of the country's population.

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1 Gandhi introduced the term 'Harijan' which means 'children of God' to refer to untouchables. Although he meant well and caste Hindus still use it, ex-untouchables resent the implied condescension. See Isaacs, pp.39-42; Duskin, p.632.

It is some comfort to think that although the practice of untouchability made India quite unique among social systems, the attempt to eradicate it has also made the country unique.

The Legal Basis for Positive Discrimination

L.M. Shrikant points out that children from Scheduled Castes did not attend schools at all in the beginning of the nineteenth century. Concern about the status and disabilities about these castes, he goes on to say, is "an essentially modern phenomenon due to the renaissance of Hindu Society which came in the wake of its contact with the west." The first legal breakthrough came in 1858 when the Court of Directors threw open government schools to members of the Scheduled Castes despite bitter and active opposition by many caste Hindu groups. A detailed description of events since 1858 falls outside the scope of this paper but it is important to note that, between the period 1858 to 1950, many government regulations had very slowly, and in limited ways, discriminated in favour of Scheduled Castes. What the Republican Constitution of India did was to extend the scope of these provisions.

There are two aspects to the legal provisions in the Constitution. The first is that under Part III, "Fundamental Rights," several articles explicitly state that everyone is equal before the law and discrimination by the State or citizens on grounds of religion, race, caste, sex or place of birth is prohibited. In the same spirit, untouchability is abolished. The second legal aspect is that several articles in other parts of the Constitution require the State to discriminate in favour of certain "backward classes". The spirit of these legal provisions is perhaps best expressed in Article 46 which occurs in part IV entitled "Directive Principles of State Policy" which are "not enforceable by any court" although "it shall be the duty of the State to apply these principles in making laws." Article 46 states:

> The State shall promote with special care the educational and economic interests of the weaker sections of the people, and, in particular, of the Scheduled Castes and the Scheduled Tribes, and shall protect them from social injustice and all forms of exploitation.

These contradictory postures of the Constitution have given rise to many court challenges and I shall refer to some of them later.

Implementation of Policy

The federal and state governments of India carry out the policy of positive discrimination in three specific ways. First, in every state or federal election, only members of the Scheduled Castes or Tribes may contest from certain electoral districts. In addition to these "reserved" districts, members of Scheduled Castes or Tribes may contest from any other "general" electoral districts. This policy guarantees that these castes and tribes will have their own representatives in the Lok Sabha ("The House of the People," which is the lower house in the Indian Parliament) and in every state legis-

lature. [1] Secondly, a certain percentage of jobs in government services is set apart for members of Scheduled Castes and Tribes.

> A reservation of 12½ per cent of the vacancies filled through the Union Public Service Commission or by competitive examinations is made for Scheduled Castes. If the vacancies are filled up in any other manner - by interview, for example - the reservation is 16 2/3.... These reservations relate to appointments to posts which attract candidates from all over the country, namely Class I and II (supervisory) services; for Classes III and IV which attract candidates from local areas, reservations in general are made in proportion of the population of Scheduled Castes and Scheduled Tribes....2

The third prong of the policy of positive discrimination is aimed at education. Pupils from Scheduled Castes and Tribes are entitled to special scholarships and maintenance grants while pursuing their studies. Furthermore, in professional colleges where academic competition for admission is extremely high, a certain percentage of places is set aside for those belonging to Scheduled Castes and Tribes.

Problems associated with implementing the policy of positive discrimination in education for Scheduled Castes is the concern of this report although the nature of the subject will compel me to touch on the policy of job reservations.

The Policy in Education

The state and federal governments have encouraged the admission of Scheduled Caste children in schools. Specifically, government financial support is withheld from schools which discriminate against members of the Scheduled Castes. Despite regional variations, Scheduled Caste enrolment in the first two levels of education is quite substantial in every Indian state.

This is clearly shown in the following Table 1 taken from L.M.Shrikant "Education of the Backward Classes," The Second Indian Year Book of Education: Elementary Education. (New Delhi: National Council of Educational Research and Training, 1964). p.181.

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[1] "The reservation of seats in the legislatures is the only item in the entire system that has a time limit on it". The 1950 Constitution specified a ten year time limit; The Eighth Amendment in 1959 extended this limit by another year; in 1969, the limit was extended for another ten years. For an informed discussion on this subject see C.P. Barthwal "Representation of Scheduled Castes in Parliament and State Legislatures". Economic and Political Weekly (September 6, 1969), pp.1451-1454.

[2] Lok Sabha Debates, vol.20, No.15 (September 2, 1963) col.3902. Directory and Yearbook Including Who's Who 1968 (Bombay: Times of India Press, 1968), p.222; India: A Reference Annual 1966 (Delhi: Ministry of Information and Broadcasting, Government of India, 1966, p.122.

Table 1: Enrolment of Scheduled Castes (1960-61)

	Proportion of Sched. Castes to Total Pop. (%)	Enrolment of Scheduled Castes in Primary Schools		Middle Schools		Total	
		Enrolment	% to Total	Enrolment	% to Total	Enrolment	% to Total
Andhra Pradesh	13.8	4,28,119	16.0	32,325	9.2	4,60,444	15.2
Bihar	14.1	2,66,396	9.8	61.423	7.6	3,27,819	9.3
Gujarat	5.7	43,379	6.1	1,04,234	6.8	1,47,613	6.6
Kerala	8.4	1,96,212	10.9	65.235	8.5	2,61,447	10.2
Madhya Pradesh	13.1	1,57,087	9.3	39,446	8.1	1,96,533	9.1
Madras	18.0	4,24,175	17.0	1,29,037	11.6	5,53,212	15.3
Maharashtra	5.6	1,78,086	10.0	2,48,196	10.2	4,26,282	10.1
Mysore	13.2	1,34,326	10.5	73,305	6.3	2,07,631	8.5
Punjab	20.4	1,22,004	12.3	29,297	9.2	1,51,301	11.6
Rajasthan	16.7	38,659	4.4	11,248	3.6	49,907	4.2
Uttar Pradesh	20.9	5,65,822	14.3	67,197	12.2	6,33,019	14.0
West Bengal	19.9	4,59,803	17.4	27.490	12.2	4,87,293	17.0

State governments, out of their own budgets and with financial help from the federal government, have given to students from the Scheduled Castes the following types of assistance: "(1) free tuition at all stages; (2) ad hoc grants for purchase of books; (3) provision of hostels where board and lodging (are) free of charge; and (4) where necessary grant of stipends." Although most of these grants are for studies beyond matriculation, i.e., after high school graduation, many students also receive pre-matriculation scholarships. Beginning in 1954-55, the Government of India also introduced a scholarship scheme to enable Scheduled Caste students to study abroad. Table 2 which reports the growth of post-matriculation scholarships gives an indication of the remarkable expansion of this scheme.

Table 2: Increase in Scholarships for Scheduled Castes and Scheduled Tribes

Year	Total Number of Scholars Benefiting from the Scheme	Total Amount of Expenditure Incurred on the Scheme
		Rs.
1947-48	655	5,39,307
1948-49	731	4,98,303
1949-50	1414	8,56,804
1950-51	2181	12,69,456
1951-52	2834	15,40,942
1952-53	6444	30,52,267
1953-54	11934	61,55,267
1954-55	20658	107,89,000
1955-56	41451	150,53,936
1956-57	39485	187,28,382
1957-58	44962	223,11,674
1958-59	49962	223,11,674
1959-60	61962	257,37,302

Source: National Council of Educational Research and Training, Review of Education in India: 1947-61, Ministry of Education. (New Delhi, 1961), p.35.

The only differentiated statistics I have seen indicates that the greatest number of these scholarships are awarded to members of the Scheduled Castes. Table 3 is taken from an earlier (1960) Government of India publication, and despite discrepancy in figures quoted for the years referred to, it is worth comparing with Table 2.

Table 3: Number of Scholarships Awarded

	Scheduled Castes	Scheduled Tribes	Other Backward Classes	Total
1956-57	21,525	3,505	14,230	39,260
1957-58	25,400	4,400	12,400	42,200
1958-59	31,250	5,000	12,500	48,750
Total	78,175	12,905	39,130	130,210

Source: Government of India, Planning Commission, Second Five Year Plan: Progress Report, 1958-59. (Delhi, 1960), p.140.

Article 338 of the Constitution requires of the President of India to appoint a special officer to keep track of the problems of the Scheduled Castes and Tribes and to publish reports on them periodically which shall "be laid before each House of the Parliament." In 1951, Mr. L.M. Shrikant, a caste Hindu, was appointed as Commissioner for Scheduled Castes and Tribes and remained in that position for ten years. His annual Reports of the Commissioner for Scheduled Castes and Schedules Tribes are veritable gold mines of information and have done a great deal to keep the problems of these castes alive in Parliament.

Legal Problems

The central issue out of which almost all the legal problems arise is this: The Fundamental Rights which are placed in Part III of the Constitution are enforceable in courts and are inspired by classic liberal principles. The constitutional justifications for positive discrimination in education rest in Part IV of the Constitution which are not enforceable in courts and are inspired by socialistic precepts.

Two matters which are highly significant in this context may be mentioned. In 1951 the Madras Government issued a Communal Government order (G.O.) establishing a policy of admission to the engineering and medical colleges of the state based strictly on a communal basis. It is necessary to quote Donald Eugene Smith at some length on this matter:

> Out of every fourteen seats, six were to be allotted to non-Brahman Hindus, two to backward Hindus, two to Harijans, two to Brahmans, one to Anglo-Indians and Indian Christians, and one to Muslims.

> A lady candidate complained that she was denied admission to the medical college on the ground that she belonged to the Brahman community. The Madras High Court gave judgment in her favour, and the government appealed the case to the Supreme Court. In State of Madras vs. Sm. Champakam Dorairajan, 1951, the Supreme Court declared the G.O. unconstitutional inasmuch as it distributed seats among communities according to a fixed ratio. The court found that the classification made in the order constituted a clear violation of the fundamental right guaranteed to citizens under article 29(2) (which prohibits Caste discrimination in admission to state-aided educational institutions). This right is a right conferred on a citizen as an individual and not as a member of a class. The denial of admission to a qualified Brahman cannot be defended under the Constitution on the plea that there is no exclusion of Brahmans as a class. The article is not concerned with the rights of classes but of individual citizens.1

This decision created a problem for the state which was solved by the insertion of a new clause in the Constitution. Article 15(4) protected the right of the state, where deemed necessary, to make special provisions for the advancement of socially or educationally disadvantaged groups. There are several other cases which must be omitted for reasons of economy.2

The other interesting fact is that according to a ruling of the Union (Federal) Law Ministry, Christian, Muslim or Buddhist converts of Scheduled Caste origin are not eligible for and should not get favourable discrimination even though their social and economic situation remains the same. The rationale is that untouchability is a peculiar disability of Hinduism, and that an individual who formally forsook Hinduism for another religion is not a member of a Scheduled Caste. This, however, has been frequently challenged and is still a matter of controversy.

Administrative Problems

The problems associated with enabling legislation and administrative law are complex matters in every country. Positive discrimination in India is no exception. Unlike the scheduled tribes, who live in isolated forests and hills, Scheduled Castes live among the rest of the population. "They have been segregated rather than isolated." This geographical scatter of Scheduled Castes adds to administrative difficulties in implementing special programmes.

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[1] Donald Eugene Smith, India As a Secular State (Princeton, N.J.: Princeton University Press, 1963), p.122.

[2] "The Mysore Government reserved 68 per cent of the places in technical colleges for certain castes on the grounds that they were backward classes. This was held unconstitutional". Gledhill, p.184. See also Lok Sabha Debates, vol.20, No.15 (September 2, 1963) col.3414 on Kerala High Court decision.

There are procedural delays in releasing funds for expenditure. For example, students often do not get their scholarships in time, even when authorized. In spite of decentralizing the sanction procedure in 1958-59 to minimize these delays, large amounts are never used and lapse every year. This is often attributed to officers "who have neither interest (in) nor knowledge about" the problems of Scheduled Castes. The same kind of criticism is levelled against the federal and state advisory committees concerned with the welfare of Scheduled Castes.

Although the central and state governments are committed to the abolition of separate schools and separate student residences for Scheduled Castes, real fiscal policy encourages their continuation or even expansion. Orissa spent Rs.300,000 in 1963-64 for the construction of 15 new student residences for members of the Scheduled Castes. This inconsistency is the result of an uneasy compromise. On the one hand, state governments are committed to providing more educational opportunities for Scheduled Castes, while on the other, there is still considerable, though varied, opposition from caste Hindus against policies which bring them physically closer to members of Scheduled Castes. These counter pressures have led some state governments to construct separate schools and student residences since their maintenance is not against the law so long as there is no overt practice of untouchability. From one perspective, this is definitely progress in that these students are now getting an opportunity for education even if it is on a segregated basis. However, such governmental actions will only delay the integration of members of the Scheduled Castes with the rest of society.

G.N. Ramu in a report on untouchability in rural areas points out that "whenever there is red-tapism a new class of people, who may be called middlemen, emerges. The middlemen exploit the constitutional amenities, granted to the untouchables, for personal ends." Although Ramu's article does not specifically claim that middlemen exploit grants of scholarships etc., the matter should be explored.

Social and Political Problems

The most critical factor in the successful implementation of positive discrimination is the attitude of the non-scheduled castes. Basically, the Scheduled Castes are economically dependent on the upper castes; this is especially true in rural areas where most of the Scheduled Caste members live. On the other hand, non-scheduled castes which are just above the line of untouchability but are economically not very much better off, feel quite resentful of the privileges that Scheduled Castes receive. A caste Hindu agricultural worker in a village may have a son who had completed high school but cannot go to university because of lack of money. If the son of a Scheduled Caste individual in the same village is able, however, to go to university because the government gives the young man a scholarship, the caste Hindu is simply baffled and angered by this turn of events which has converted a commonly accepted social disability into an advantage. This, incidentally, is the main reason for the previously unheard of clamour among several castes to be classified as belonging to "Other Backward Classes." Several observers have pointed out the inherent dilemma in the government policy of positive discrimination which Isaacs states succinctly:

> All the programs and quotas are intended to help the ex-untouchable shed his identity but the effect has been to make his identity more visible than ever ... (The individual) has to certify that he is an ex-untouchable before the government can help.1

One result of the government policy, among other factors, has been to increase communal consciousness in India as the careful studies of political scientists like Myron Weiner have shown.2

The groups we call Scheduled Castes who numbered 64.5 million people according to the 1961 census, constitute "a diverse population ... born into numerous communities, each with its own identity, tradition and problems." They are not a united force; indeed they practice various degrees of untouchability among themselves. The higher castes have occasionally exploited this fact skill fully to maintain old practices. The 1961-62 Report of the Commissioner for Scheduled Castes and Tribes notes that "In certain areas ... separate wells have to be provided by the government for different classes of Scheduled Castes living in the same village" 3 Given the tremendous backwardness of Scheduled Castes, their lack of unity, and resistance to change, any general increase in communal consciousness in the country may only work to their disadvantage. They would be unable to hold their own in inter-caste struggles to receive a fair portion of the resources of a scarcity-ridden society.

Several observers have noted that the system of reservations of government jobs has had the unintended effect of taking the educated people among Scheduled Castes out of positions of community leadership and putting them in safe jobs where civil service rules will keep them silent for the rest of their lives. The political leaders of Scheduled Castes have usually been drawn from the more educated people. If we must name one person as responsible for the policy of preferential treatment of Scheduled Castes, it is Dr. B.R. Ambedkar who was a member of the ex-untouchable Mahar community of Bombay. He worked hard from the early 1930's for the uplift of untouchables and as the father of the Indian Constitution and as the first Minister of Law of independent India, was able to push through the kinds of legislation and regulations I have discussed here. 4 Since his death in 1956, there has been a leadership vacuum which has not been filled.

Another relevant factor is that the system of reservations has developed a class of entrepreneurs who have learned to use positive discrimination to their own advantage. They now appear to have a vested interest in maintaining positive discrimination for their own reasons which are often detrimental to the welfare of the groups.

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[1]Isaacs Indias' Ex-Untouchables (New York: John Day, 1964) p.114.

[2]Myron Weiner. The Politics of Scarcity (Bombay: Asia Publishing House, 1963)

[3]Cited in Isaacs, p.52; Lok Sabha Debates (September 4, 1963),col.4409.

[4]A. C. Paranjpe, "The Life History of Dr. B.R. Ambedkar: A Social Psychological view" in R.D. Suman, ed., Dr. B.R. Ambedkar: A Commemorative Volume (in press).

A General Evaluation

If one reads the speeches in the Lok Sabha on the effectiveness of positive discrimination, one gets two views. The government spokesmen, understandably, claim that despite many problems, the economic, social and educational progress of Scheduled Castes in the past two decades has been remarkable. Members of Parliament from the Scheduled Castes, however, claim that progress has been minimal and spotty. I find it difficult to accept this latter view with one important exception: untouchability in rural areas still appears to be quite common. The following items of evidence may be of interest here.

The higher castes appear to have accepted the notion of education under one roof for children of all castes. Table 4 gives the results of a 1964-65 interview study of the attributes of Caste Hindus toward untouchability in the village of Hosur in Mysore State.

Table 4: (Showing the Responses of Caste Villagers on Various Aspects of Untouchability)

	YES		NO		TOTAL	
	Number	Percent	Number	Percent	Number	Percent
Interdining	-	-	47	100	47	100
Social distance	45	95.7	2	4.3	47	100
Permission for temple entry	-	-	47	100	47	100
Permission to use public wells	-	-	47	100	47	100
Permission to enter schools	47	100	-	-	47	100

(Source: G.N. Ramu, "Untouchability in Rural Areas," Indian Journal of Social Work 29 (July 1968), p.149).

Santokh S. Anant's questionnaire surveys of populations from Scheduled and Non-scheduled Castes in areas in and around Agra, Delhi and Varanasi in Northern India confirm these findings on education,[1] although he found that Caste Hindus (especially in urban areas) were resolving the dilemma of conflicting legal and caste rules by:

> conforming to legal provisions in those spheres of interaction in which the ideas of ceremonial purity are not terribly challenged and which are public, e.g., physical contact, admission to temples, use of the well, etc. but abiding by the caste rules in spheres of intimate contact, e.g., interdining, acceptance of food, marriage, etc.[2]

[1] Santokh S. Anant, "Inter-Caste Relations and Legislation: Attitudes Toward Special Privileges For Scheduled Castes", especially Table 8. (Unpublished). By courtesy of the author.

[2] Santokh S. Anant, "Caste Hindu Attitudes Toward Harijans: A Study of Inter-Caste and Urban Rural Differences", Psychologia 13 (1970), p.43.

Andre Beteille points out that "modern education acts in a very special way as a solvent of the barriers between different communities ... In the village of Tanjore district, for instance, it is a new experience for Harijan children to sit with children of their Brahmin masters in the same room and study and play together." He also points out how the 'midday meals scheme' in Madras State which results in children being served food in school irrespective of caste "... is likely to have considerable significance for the future."

Two other studies found that members of the Scheduled Castes have become very aware of the importance of education and are sending their children to school in greater numbers than ever before.

All through the 1950's and early 1960's there was considerable controversy about the policy of reserved vacancies for Scheduled Castes because allowed quotas were not being filled. Government spokesmen claimed that the reason was unavailability of suitable candidates; spokesmen for the Scheduled Castes claimed it was a result of Caste Hindu prejudices. Controversies aside, Table 5 shows that there has been some increase in Scheduled Caste representation in government services, while Table 6 indicates that the quotas in the highest Class I category began to get filled beginning in 1963. Government spokesmen have attributed this progress to "enough educated ex-untouchables (coming) out of the universities to produce enough applicants with the neceesary qualifications."

Table 5: Number and Percentage of Permanent and Temporary Posts in Government Service Occupied by Members of Scheduled Castes and Scheduled Tribes, 1956 and 1963

Class	Year	Total Number of Employees	Scheduled Castes		Scheduled Tribes	
			Number	Percentage	Number	Percentage
I	1956	6,233	44	0.71	6	0.10
	1963	14,117	250	1.68	29	0.20
II	1956	14,455	290	2.00	56	0.39
	1963	23,756	707	2.98	53	0.22
III	1956	642,651	45,181	7.03	3,990	0.62
	1963	916,452	84,714	9.24	9,906	1.08
IV	1956	759,570	167,239	22.02	18,497	2.43
	1963	881,556	151,176	17.15	30.890	3.50

(Source: P.M. Menon "Towards Equality of Opportunity in India," International Labour Review 94) (October, 1966), p.368.
Explanation: Class I: Highest executives
Class II: Supervisors with some clerical responsibilities
Class III: Clerks
Class IV: Manual workers, messengers, etc.
There is a fifth category called "sweepers".

Table 6:

	Vacancies					
	Indian Administrative Service			Indian Police Service		
		Scheduled Castes			Scheduled Castes	
	Total	Reserved	Filled	Total	Reserved	Filled
1961				64	14	7
1962	99	22	22	73	17	10
1963	87	11	11	68	16	15

(Source: Lok Sabha Debates, Vol. 20, no. 17 (September 4, 1963), col. 4508.)

Poverty or Untouchability?

The most important theoretically significant and practically useful question which is emerging now is whether the disadvantages of the Scheduled Castes are primarily due to poverty or untouchability. One finds assertions supporting the view that the greater disadvantage is one or the other. However, of late, more scholars and politicians are beginning to express the view that poverty is the greater disability. I would like to indicate the theoretical significance and practical utility of this question.

If untouchability is still the greater disadvantage then we are dealing with a social system which is more or less "closed". If poverty is the greater disadvantage then we are dealing with a more or less "open" system. This is another way of asking whether India is moving under the impact of modernization processes from a caste to a class system. There is quite respectable evidence to support this. I shall cite one author:

> Graduates in India earn considerably more than matriculates and, similarly, matriculates earn more than primary school leavers. It is not clear, therefore, whether a degree is better rewarded because it has prestige or whether it has prestige because it is better rewarded. Indeed, it is characteristic of modern societies that prestige and income are highly correlated, and in this sense India is a modern society. [1]

If this is indeed so, we may have to break the "terminological habit" of speaking in terms of caste and class and focus more on questions concerned with differential access to power and status of societal groups. Such a theoretical framework may also make it possible for us to compare in many nations the importance of education for groups which have more power or status with groups which have less power or status.

The practical utility of the issue of poverty vs. untouchability is this: Has the time come for the Indian government to carefully phase out positive discrimination on the basis of caste in education? If so, should it introduce positive discrimination on the basis of carefully worked out criteria of economic deprivation and need?

[1] M. Blaug, P.R.G. Layard, and Mr. Woodhall, The Causes of Graduate Unemployment in India (London: Allen Lane, Penguine Press, 1969). p.3.

TECHNICAL ASSISTANCE TO EDUCATION IN WEST AFRICA 1945-68
A COMPARATIVE REVIEW OF BRITISH AND AMERICAN POLICIES

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Summary

Reference: Vol.2 (1969) B17 (p.18)

The thesis shows British technical aid to be governed by colonial policy to guide territories to responsible self governments, to which the extension of social and educational facilities at all levels were considered a prerequisite. Hence, any effective aid programme had to be long term and continuous and capable of being adapted to changing needs and conditions.

American technical aid developed under its foreign policy to promote security and general welfare of the U.S. by assisting people of the world in their efforts towards economic and social development (foreign Assistance Act 1961). American Education assistance was ancillary to short term relief programmes.

Whereas British aid has been determined by a sense of trusteeship responsibility, American aid has been determined by security interests. Nevertheless, British and American policies of higher education have promoted diversity: British policy underlining autonomy, freedom, standards; American science and technology.

Report

Introduction

The study of British and American policies of technical assistance to education in West Africa, which is concerned with the provision and the development of human resources, has shown that educational assistance has been an instrument of social change in Ghana. However, the outcomes were not always those envisaged by the British and American authorities.

British and American authorities do not suggest that technical assistance is provided for its own sake as a purely disinterested activity. The policies of the donor countries have been determined by their national interests as well as the objective of development in the assisted countries.

Technical assistance is a two-way process which can benefit the donor as well as the recipient countries. As the national interests of the donor countries and the needs of development in West Africa have changed in emphasis, so have their policies changed.

Apart from the physical provision of aid in the form of men, money and equipment, there are always much intangible things as ideas, personal contact with people and familiarity with the way they do things, which can exert tremendous influence on the recipient country. In consequence, a country which continually receives technical assistance from Britain, for example, will amost imperceptibly be influenced by British ideas and British ways of doing things. This may not form an overt part of the assistance programme, but then the influence will stay with the recipient country at the expiry of the assistance programme. For ideas which form the basis of technical assistance programmes in education have an independent vitality.

British and American authorities agree that development is a long-term, rather than a short-term, process; that technical assistance should be a joint effort, a co-operation between donor and recipient countries;and that education is a basic precondition of social progress and economic development.

The recognition that leadership in all fields of development must come largely from the products of institutions of higher education has resulted in increasing attention being paid to educational assistance at the higher level.

In Ghana, while the structural characteristics of Universities established with British assistance have remained essentially British, changes have occurred in the content of the curriculum in the direction of applied science, technology and professional studies, the development of African Studies and in the greater provision of middle-level education. The outcome of this process of change, which is a combination of indigenous and foreign influences, may well be an African contribution to higher education.

Definition and scope of Technical Assistance

Technical assistance on a large-scale governmental basis is a post-war concept. However, the history of technical assistance is not short. In the past, technical assistance was a by-product of military conquest, colonisation, commerce and evangelisation. Much of the assistance provided was indirect and largely unplanned. It would appear that before the Second World War the term "technical assistance" had not gained currency, its meaning was vague and covered a wide variety of activities.

Official British definition of technical assistance is, "training in the United Kingdom and overseas; the provision of experts, administrators and other professional men and women; the provision of advisory, technical and consultant services and expert missions; and the supply of equipment for training, demonstration, pilot schemes or surveys. This definition, which may be summarised as the provision of training, experts (including advisory and specialist services) and equipment excludes all forms of capital assistance." 1

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1 United Kingdom, Technical Assistance from the United Kingdom for Overseas Development. Cmd. 1308. London: H.M.S.O. 1961.

British definition of technical assistance covers a wide range of activities; however, the three most important elements are training in the United Kingdom or overseas, the supply of teachers and experts and the provision of equipment (including text-books) for training and research.

Technical assistance is provided by Britain, on request, to overseas countries. It implies a co-operative effort by the United Kingdom and the recipient country in identifying particular opportunities for providing technical assistance; for example, in the selection of candidates for training and in determing appropriate types of training. As explained by the Department of Technical Co-operation, what the United Kingdom government was "aiming to do is to co-operate with other countries when asked in educating their men and women, developing their natural resources, raising their standards of living and building up their institutions and services."1 Thus, technical assistance is amenable to selective control by the recipient country, and therefore more likely to be adapted to suit local conditions.

The United States Mutual Security Act, 1954, defined American technical assistance as,
"...programs for the international inter-change of technical knowledge and skills designed to contribute primarily to the balanced and integrated development of the economic resources and productive capacities of economically underdeveloped areas. Such activities shall be limited to economic, engineering, medical, educational... training and similar projects that serve the purpose of promoting the development of economic resources, productive capacities, and trade of economically underdeveloped areas, and training in public administration."2

This definition implies that American programmes of assistance were to be designed to contribute "primarily" to the balanced and integrated economic development of recipient countries, and that they "shall be limited" to specific areas of activity. Besides, technical assistance is the "international interchange of knowledge and skills." It includes sharing of techniques and experience with people of the developing areas of the world. Such programmes of assistance are carried out at the request of 'friendly governments' to supplement their own efforts to increase their level of technical competence.

British and American definitions of technical assistance cover a wide range of activities which are performed at the request of the recipient countries to promote development in the recipient countries.

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[1]United Kingdom, Department of Technical Co-operation, Technical Co-operation: A Progress Report by the New Department. Cmnd. 1698. London: H.M.S.O., 1962, p.4

[2]U.S. Mutual Security Agency, The Mutual Security Program, Fiscal Year 1961. Washington: U.S. Government Printing Office, 1961, p.46

The main forms of educational assistance provided by Britain and America include the following:

a) advice, including the formulation of educational policy
b) provision of training and research facilities
c) supply of teachers, experts and other educational personnel
d) provision of teaching aids, equipment and textbooks
e) financial assistance for educational purposes.

As the provision of these forms of assistance has received varying emphasis at different periods, so has the manner in which assistance has been offered to recipient countries. In general, British and American technical assistance is provided through a) bilateral arrangements, based on agreements between the donor and recipient countries; b) regional programmes; c) multilateral assistance through international organisations and d) public bodies other than government department.

While the British definition has stressed assistance to education in general as well as training in specialised techniques, the American definition emphasised in particular the provision of scientific and technical knowledge. As stated in the U.S. Mutual Security Program (1961), "What science and modern technology can mean in achieving social and economic progress are only empty words if men trained to employ their methods are not available. Technical co-operation programs are of key importance in providing that training and know-how."

This differences in emphasis is reflected in the policies of the two countries.

British and American Policies, Pre-1945

British policy of technical assistance may be said to have formed an integral part of British Colonial policy, and American technical assistance an instrument of American foreign policy. In consequence, an attempt is made to examine briefly the relationship between British and American policies of technical assistance, and British colonial policy and American foreign policy.

British Colonial Policy

The central purpose of British colonial policy was "to guide the colonial territories to responsible self-government within the Commonwealth in conditions that ensure to the people concerned both a fair standard of living and freedom from oppression from any quarter."[1]

To achieve this central purpose of British Colonial policy, the United Kingdom government held the view that those economic and social conditions considered essential for responsible self-government should also be created in the dependencies. For constitutional development by itself would be unreal unless reinforced by social and economic development.[2]

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[1] Great Britain, The Colonial Empire, 1947-48. Cmnd. 7433 London: H.M.S.O., 1948, p.1

[2] United Kingdom, Constitutional Development in the Commonwealth, Part II. London: H.M.S.O., 1955, p.2

In almost every aspect of the development process in the dependencies - political, economic and social - the extension of educational facilities at all levels was considered a pre-requisite.

Assuming that by education is meant not only "the training of the intelligence or the arts of life and the means of livelihood.but also the raising of the general level of the lifeof the whole people, and the provision of really adequate facilities for their development, physical, economic, intellectual and spiritual "1. as H.S. Scott has suggested, then educational assistance to the colonies must be an essential part of the responsibility of Great Britain as a trustee of the welfare of the peoples in its dependent territories. As laid down in Article XXII of the Covenant of the League of Nations (1920), "the well-being and development of peoples not yet able to stand by themselves under the strenuous conditions of the modern world would form a sacred trust of civilization". This explains Britain's long history of technical assistance which goes back to the colonial period.2

Advisory Committee on Education in the Colonies

Prior to the Second World War, the British governments role in educational assistance to the dependencies of Tropical Africa was more in the formulation of broad educational policy, the giving of advice, and the supply of educational personnel to implement policy proposals, than in direct financial contributions to education. This form of assistance was given through Advisory Committees, Commissions and personal visits of educational experts to the colonies. Perhaps the most influential of these committees was the Advisory Committee on Native Education in the British Tropical Dependencies.

In its Memorandum of 1925, which was prepared in "fuller recognition" of the Administering power's responsibility as a trustee of the African people, the Advisory Committee formulated the broad principles which should form the basis of a sound educational policy in British Tropical Africa.3

According to the memorandum, the first task of education was "to raise the standard alike of character and efficiency of the bulk of the people." The second was that "provision must also be made for the training of those who are required to fill posts in the administrative and technical services, as well as of those who as chiefs will occupy positions of exceptional trust and responsibility."

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1 H.S. Scott, "Educational Policy in the British Colonial Empire," in The Year Book of Education, 1937. London: Evans Brothers Ltd. 1937, p.412

2 United Kingdom, Britain's Contribution to Economic Development Overseas. London: Central Office of Information, 1960, p.1

3 Colonial Office, Education Policy in British Tropical Africa. London: H.M.S.O., 1925, p.3

One of the basic policies formulated by the Advisory Committee on Education was that, "Education should be adapted to the mentality, aptitudes, occupations and traditions of the various people conserving all sound and healthy elements, adapting them where necessary to changed circumstances and progressive ideas."1 It was hoped that education thus defined would "narrow the hiatus between the educated class and the rest of the community whether chiefs or peasantry."

Education assumed a significant role as a means of inculcating a sense of citizenship in the mass of the people and preparing the traditional leaders, the chief, for local responsibility.

Subsequent memoranda submitted by the Advisory Committee underlined the objectives which the British government had set itself to achieve as a necessary condition of self-government: the improvement of the well-being of the African people; and the development of political institutions and political power until the day when African people could become effectively-self-governing.

The education policies formulated by the Advisory Committee did not cease to influence educational systems in the West African countries after they had attained political independence. For, in the existing nation states of West Africa, British colonial policies of education have had a longer life than British rule.

During the post-war period, the Advisory Committee was generally consulted on the granting of assistance under the Colonial Development and Welfare Funds; and it arranged specialist advisory visits overseas. Sir Christopher Cox said of the Advisory Committee which was finally disbanded in 1961 when the Department of Technical Co-operation was established, "For thirty years, the voluntary work of some of the best professional minds in United Kingdom education has been dedicated to building up education in the colonial territories, mainly with the goal in mind of ultimate self-government."2

American Foreign Policy

The official policy under which the United States Agency for International Development (A.I.D.) has operated is that aid is an instrument of American foreign policy. Thus, the Foreign Assistance Act of 1961 was an Act, "To promote the foreign policy, security and general welfare of the U.S. by assisting peoples of the world in their efforts towards economic and social development and internal and external security and for other purposes."

This policy has its origins in the period prior to 1945.

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1 Education Policy in British Tropical Africa, 1925, pp.4-6.

2 United Kingdom, Education in the United Kingdom Dependencies. London H.M.S.O. 1959, p.11.

American national interest in its foreign policy is to foster a world environment congenial not merely to the survival of the United States but also to the continuing development of America as a free society. 1

Accordingly, there was a strong belief in the United States in seeking security through isolation. American policy and action during the First World War were influenced by this policy until the attack on Pearl Harbour and the German declaration of war eliminated the freedom of choice.

Under the impact of the Second World War, the United States moved towards a policy of all aid short of war. It culminated in the passage of the Lend-Lease Act of March, 1941, the Act to Promote the Defence of the United States.2 The primary objective of American policy of technical assistance under the Lend-Lease Act was to assist nations which were threatened by "Axis totalitarian expansion" to resist aggression. It was a short-term relief programme which ended in 1945.

In September 1943, the United States of America participated in United Nations Relief and Rehabilitation Administration aimed at repairing the destruction caused by the war in Europe and the formerly Japanese occupied territories of Asia. 3 Like the assistance provided under the Lend-Lease Act, it was a short-term relief programme which began in 1943 and ended in 1945. It did not bear close reference to any overall plan of development in the assisted countries. Any educational assistance provided was a by-product of these relief programmes.

It will be observed that British policy of technical assistance was determined primarily by Britain's responsibility as a trustee of peoples in its dependencies, and not solely for security reasons. In the period prior to 1945 educational assistance to tropical Africa was given prominence, and emphasis was placed on the formulation of policy to guide subsequent educational policies at all levels in the colonies. The achievement of political independence was the short-term objective of British policy, social and economic development was considered to be a long-term policy.

In comparison, the American foreign policy of promoting the security and well-being of the United States was the major factor which determined the provision of assistance to assisted countries. Educational assistance was considered ancillary to short-term relief programmes. Countries in West Africa were not included in official American assistance programmes at this period.

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1 U.S.Congress, Senate Special Committee to study the Foreign Aid Program. 84th Congress, 2nd Session, 1957 (Washington U.S. Government Printing Office, 1957), p.16

2 U.S. Congress, A Decade of American Foreign Policy, 1941-49. Senate. 81st Congress, 1st Session, 1949. (Washington: U.S. Government Printing Office, 1950), pp.3-5.

3 U.S. Agency for International Development, The Aid Story, 1966. (Washington, D.C.), p.3

British Policy of Higher Education in dependent West Africa

The evolution of a policy for institutions of higher education in the African dependencies was the subject of a number of investigations and reports by committees appointed by the Advisory Committee on Education for the Colonies between 1933 and 1945.

While the proposals for creating colonial universities made by the various committees were applicable to specific areas of the British dependencies, the Asquith Commission Report, published in 1945, embodied a general policy intended to be applicable to the Colonies as a whole.

In the view of the Asquith Commission Universities have an important part to play in the stage preparatory to self-government, indeed "they may be said to be indispensable."[1]

The Commission's immediate objective in the dependent territories was "to produce men and women who have the standards of public service and capacity for leadership which the progress of self-government demands, and to assist in satisfying the need for persons with the professional qualification required for the economic and social development of the Colonies."[2]

Against the European tradition of University aims and social functions must be understood the recommendations made by the Asquith Commission. The fact that European Universities included within their ranks people whose training fitted them for different roles in the leadership group of European society, created a demand for them by individuals and by Church and State. In line with this tradition, the Asquith Commission's proposals were determined by the political evolution which was taking place in the dependent territories, the accompanying economic and social development and the need for capable leaders and persons with professional qualifications.

Three main principles which received considerable attention in the Asquith Commission's report were University autonomy, high academic standards and adaptation to local needs and conditions.

In order to secure for the colonial graduate a qualification whose significance was clear, the Commission proposed that the University colleges could "establish personal relationship" with the academic staff of the University of London who would be responsible for examining and approving courses of study.

The Commission proposed the creation of an Inter-University Council for Higher Education in the dependencies, on which representatives of all the British Universities would serve, to keep in touch with the development of the new University Colleges by regular visits of its members. Besides, it recommended that an appropriate part of the funds available

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1 Colonial Office, Report of the Commission on Higher Education in the Colonies, 1945. Cmd. 6647 London: H.M.S.O., 1945, p.10. (The Asquith Commission Report, 1945).

2 Ibid., p.104

under the Colonial Development and Welfare Acts should be allocated specifically for the establishment of institutions of higher education in the colonies.

In accordance with the policy proposals contained in the Asquith Commission Report, 1945, University Colleges were established in Achimota, Ghana, and in Ibadan, Nigeria, which entered into special relationship with the University of London. Fourah Bay College, Freetown in Sierra Leone retained its links with University of Durham.

The provision of centres of higher technical education and vocational education in the dependencies was given prominence in the report of the Inter-University Council for Higher Education Overseas, 1947-49. As a result of the Council's recommendation, and of surveys carried out in the territories in 1948 and 1949, Colleges of arts, science and technology, offering course of 'professional or near professional standard (not normally University degree), was established in Nigeria and Ghana. The existing Fourah Bay College in Sierra Leone was expanded to include technical and vocational courses.

American Policy in dependent West Africa

Since the countries in West Africa were dependent territories of European powers, American assistance to these countries after the Second World War was given through the metropolitan countries. Bilateral agreements were signed with these countries, but there was no comprehensive policy of American educational assistance to West Africa comparable to that of Britain.

Thus, under the Economic Co-operation Act of 1948, the American Congress authorised the restoration of Western European economy weakened by the Second World War to be undertaken, hence the European Recovery Programme. Every effort was made to keep the main emphasis on economic recovery and reconstruction as the objectives of the programme.

Although the programme aimed at European economic recovery, there were instances when the developmental needs of the dependent African countries were embodied in measures taken to aid the metropolitan countries themselves. 1 The United States government did not consider it in keeping with the character of American foreign relations to advance a programme of educational assistance for any African territory politically dependent upon a European Administering power without the invitation or the express approval of the government concerned. In line with this policy, American assistance to dependent West Africa was tied to the European Recovery programme. The assumption was that the development of the European countries was related to the development of the overseas territories as sources of raw materials in which Western European countries were deficient and markets for manufactured goods.

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1 U.S. Senate, Technical Assistance. Final Report of the Committee on Foreign Relations, 1957. Report No. 139, p.640

In regard to educational assistance, the underlying policy of American assistance was that effective contribution to education in the dependent territories could be made along lines in which the Colonial powers were weakest; for example, in agricultural methods and techniques or in vocational education.

As a consequence, American educational assistance to Nigeria was made available in 1955 through the United Kingdom. 1 Nigeria was then a dependent territory of Britain. Technical assistance programmes in this country were focused on "agriculture, trade and industrial education;" 2 areas in which the Colonial power was weakest.

In his inaugural address in January 1949, President Truman listed four points as the basis of American foreign policy. The first three dealt with the United States support of the United Nations, world economic recovery and collective defence of freedom-loving nations against aggression.3 The fourth point was a "bold new program for making the benefits of our /United States/ scientific advances and industrial progress available for the improvement and growth of underdeveloped areas.....4

The President believed that the United States and other free nations of the world had a common concern for the material progress of these people, both as a humanitarian end in itself, and because it was believed that such progress would further the advance of human freedom, democratic ways of life, expansion of mutually beneficial commerce and the development of international understanding and goodwill. 5

As part of this primary objective the programme sought to "raise the educational level and to improve the health of people participating in it."6

Accordingly, one of the earliest forms of American educational assistance to West Africa, the Educational Exchange Programme initiated in 1948, was a programme to promote the better understanding of the United States among the peoples of the world and to strengthen co-operative international relations."7

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1 U.S.Senate, Briefing on Africa,1960. 86th Congress,2nd Session, 1960. Washington: U.S.Government Printing Office,1960.p.12

2 Ibid.

3 U.S. Department of State, Point Four. Co-operative Program for Aid in the Development of Economically Underdeveloped Areas. Washington, D.C.,1950, p.1

4 Ibid.

5 Ibid., p.2

6 Ibid., p.1

7 U.S. Senate, Technical Assistance. Final Report of the Committee on Foreign Relation, 1957, op.cit., p.74.

The Act for International Development was enacted in 1950 to give legislative sanction to Truman's 'Point IV' programme. In the same year the Korean War began. This was of great significance in American policy of technical assistance since virtually all American aid from then came under the category of 'defence' and 'mutual security.'

The Mutual Security Programmes

In 1951 the U.S. Congress passed the Mutual Security Act which initiated a series of annual defence orientated measures aimed at promoting "the security and foreign policy of the United States."1 This objective would be achieved by increasing the economic strength and well-being of America's friends abroad, including assistance to developing countries both as an activity necessary and good in itself and in large measure as part of a series of defensive engagements which needed to be fought to prevent the spread of Communism.

As stated by the Mutual Security Agency, 1957,

> "when all considerations are carefully appraised, it becomes apparent that the strength and prosperity of the United States is directly and strongly influenced by their economic relations with free nations and by inter-dependence for security."2

In Africa, the basic policy objectives of the United States under the Mutual Security Programmes were "to promote political stability, to develop peaceful relationships among the various nations of the region, to seek co-operation of the region with the rest of the free world in political, economic and security affairs and to assist in the development of economic, political and defense strength."3

According to the Mutual Security Agency, the developing nations, including the West African countries, are of great strategic importance to the United States. Their population in 1960, of which Africa contained 220 million, accounted for almost half of the total world population, and could determine the world population balance. Africa south of the Sahara was a vital source of raw and strategic materials to the Western World and a major supplier of uranium. North Africa was considered "an essential buttress" to Western defence positions. As buyers of the products of the United States and the industrialised nations, the developing countries could make an increasing contribution to free world prosperity as their own

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[1] U.S. Mutual Security Agency, The Mutual Security Program, Fiscal year 1958. Washington, U.S. Government Printing Office, 1959, p.17.

[2] U.S. Mutual Security Program. Fiscal year, 1957, p.8

[3] U.S. Mutual Security Programme, Fiscal Year, 1956, p.4.

prosperity increased and their buying power grew.1 For, "the more developed the country ... the better customer it is..."2

The United States believed that its national interests would be best protected in a world in which free institutions predominated, and in which popular aspirations for material improvement and social progress could be met by free and democratic governments without resource to totalitarian methods.3 This explains the statement made by the Mutual Security Agency that the developing countries were important for their own sakes and because "the fate of their citizens is of great concern to us /the United States/" 4

By helping in the development of the recipient countries, the United States was not only increasing the total strength of the free world and therefore improving the prospects for enduring peace, but also accelerating progress at a rate which would sustain their confidence in their free institutions and providing the groundwork for the expanding trade on the basis of 'mutual benefit.'5 It is in this context that must be understood President Eisenhower's statement that technical co-operation is one of the most valuable elements of the United States entire mutual security programme.

Prior to 1960 there was no comprehensive American policy of educational assistance to West Africa comparable to the educational policies formulated by the Advisory Committee on Education in the Colonies between the First and the Second World Wars.

The fact is that schools in the United States are essentially folk-created, As Asael C. Lamber has stated, "Education, like the State itself, has grown out of the native urges, hopes and values of the people themselves."6 The American Constitution itself does not mention education. In consequence, the fundamental structure of education in the United States of America is not the result of any master plan or national policy devised and projected by Federal officials. In the words of Robert M. Macy, the "federal government has been cautious about getting into the educational field at home... if you try to promote a large educational programme abroad and so indentify it, you run into some important tactical problems on the Hill." 7

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[1] U.S. Mutual Security Program. Fiscal year, 1958, p.49.

[2] Ibid

[3] U.S. Mutual Security Program. Fiscal Year, 1957, p.30.

[4] U.S. Mutual Security Program. Fiscal year, 1958, p.49.

[5] U.S. Mutual Security Program. Fiscal Year, 1956, p.21.

[6] Asael C. Lamber, "Education in the United States", in Collier's Encyclopeadia, Vo. 8, 1967, p.600.

[7] Robert M. Macy, "The Need for Guidelines" in William Elliot (Ed.) Education and Training in the Developing Countries. The Roles of U.S. Foreign Aid. New York. Frederick A. Praegar, 1966, p.202

Without the benefit of a long history of colonial administration in West Africa which Britain had, and influenced by its own tradition of local or state control of education, American policy of educational assistance to West Africa at this period aimed at 'filling the gaps' which existed in the basic technical skills needed to plan and implement sound economic programmes. 1 This assistance was supplied in the belief that the U.S. could make its most effective contribution to dependent areas along lines in which the metropole often is weakest.2

Policies in Independent West African Countries, 1961-68

The constitutional and political changes in the structure of the British Empire, occasioned by the achievement of independence by Ghana (1957), Nigeria (1960) Sierra Leone (1961) and the Gambia (1965) were reflected in British policy of educational assistance to these independent countries as well.

Britain

After the Second World War British educational assistance was given to West Africa in recognition of the fact that the dependent territories were destined for self-government, that political independence should be built on a sound economic and social foundation, and that constitutional advance, culminating in responsible self-government, was a necessary consequence of advances in general education.

With the attainment of political independence by the West African countries, the primary objective of British educational assistance to these countries in the 1960's became social and economic development. 'Development' was given a broader definition than reducing poverty and unemployment. It includes training professional men and teachers in all walks of life, craftsmen and technicians; fulfilling aspirations towards steady and continued social and economic progress; the transformation of traditional societies into modern ones, and the raising of standards of living.3 The underlying principle was that any effective aid programme must be long-term and continuous, and that, "Education is an indispensable condition of development."4 A variety of educational assistance programme was devised to achieve these objectives; for example, University secondment, inter-departmental links, University Home-base scheme, etc. Perhaps, an important feature of educational assistance to independent West Africa has been the Commonwealth Education Co-operation in which Britain has played a leading role.

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1 U.S. Mutual Security Program. Fiscal year, 1959, p.42.

2 U.S. Congress, Briefing on Africa, 1960, opcit, p.11

3 Ministry of Overseas Development, Overseas Development. The Work of the New Ministry. Cmnd 2736. London: H.M.S.O., 1965, p.6

4 United Kingdom Technical Assistance from the United Kingdom for Overseas Development. London: H.M.S.O., 1961, p.19

The significance of education for the Commonwealth is stated thus, 1 "the end of all our Commonwealth endeavour is the good life - material and spiritual - and the happiness of the... individuals..." The good life and happiness, it was explained, "could be attained only through education in the deeper and wider sense." Consequently, it has been an objective of Commonwealth countries that "their people should be able to share as widely as possible in the advantage of education of all kinds and at all levels..."2

The Commonwealth Education Co-operation schemes, which include the Commonwealth Scholarship and Fellowship Plan and the Commonwealth Teacher Training Bursary Scheme, reflect the main features of British policy. They are intended to be long-term programmes capable of being adapted to suit changing needs and conditions in the participating countries, and helping the developing Commonwealth countries "to become masters of their own educational progress." Moreover there was a shift in emphasis from the belief that educational assistance is provided by the donor country for the sole benefit of the recipient country to the idea that educational assistance is a programme in educational co-operation among the participating countries. This new emphasis in British policy was reflected also in American policy.

America

While American policy in independent West Africa continued to be influenced by its national interests in the security and well-being of the American people, the achievement of political independence by a number of African countries in the 1960's was a major factor which determined the concentration of American foreign assistance on the promotion of political democracy and economic growth in the newly independent countries. Thus, the primary objective of American foreign assistance in the developing West African countries in the 1960's was to promote the development of the recipient country within a broad social and political context compatible with 'free world' ideals.

In most developing countries some progress in economic welfare is essential to the maintenance of political independence and the growth of free societies. On the basis of this argument, the Committee on Foreign Relations stated, "Technical assistance is in the national interest of the U.S. when and only when it not only promotes economic development but also encourages the growth of free institutions within the framework of a free society." 3

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[1]Commonwealth Relations Office, Report of the Commonwealth Education Conference, 1959. Cmnd. 841, London: H.M.S.O. 1959, p.4

[2]Ibid., p.3.

[3]U.S. Senate Technical Assistance. Final Report of the Committee on Foreign Relations, 1957, op.cit., pp.21-22.

Mennen Williams was speaking for a number of African and American politicians when he stated, "There can be neither political stability nor economic progress unless there are people trained to manage, trained to produce, and trained to teach these skills to others... Education and training is not only a first priority in itself, it lies at the effort that must be made in every field."1

It was felt that all the forces of change operating on the continent of Africa underlined the need for educational assistance, guidance and advice. The Foreign Assistance Act of 1961 created the Agency for International Development which combined the economic and technical assistance operations of official bodies concerned with aid, and its main provisions formed the basis of the Special Programme for Tropical Africa, 1961.

Special Programme for Tropical Africa, 1961

The purpose of the special programme was "to promote education and training, and to encourage regional co-operation for the development of Africa's resources through multi-country consultation, planning research and reconnaissance surveys."2

The underlying principle of the special programme was that, "Development of human resources, through education and training, is a fundamental pre-requisite to economic growth and political stability for the African nations that have recently won or are about to win independence."3

Considerable emphasis was placed on the stengthening of existing institutions of higher learning, which in turn could then serve as more effective centres of planning and leadership for education. Attention was also given to teacher training, to basic improvements in primary and secondary education, vocation training, agricultural and public health training, and training in public administration.

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1 U.S. Congress. The International Development and Security Act, June 7, 1961, pp.295-296.

2 U.S. Mental Security Program, Fiscal Year, 1961,p.77.

3 Ibid., p.35

Basic to American educational assistance to Africa has been , like the British, the policy of adaptation which states, "The training and assistance that technical co-operation provides is tailored to the needs of the recipient country; in one the need may be for increased food production, in another expert guidance in tanning hides and skins may upgrade an important export item, in a third help may be sought to develop and staff an agricultural extension service."1

While the British policy of adaptation was concerned with general cultural adaptation to mentality, traditions and aptitudes, and the modifications of the curriculum to include agricultural and technical education; the American policy of adaptation was confined to specific "crucial needs and urgent demands" and "educational bottlenecks"; for example, "food production", "guidance in tanning hides" and training of staff for agricultural extension.

In contrast, the British educational assistance to West Africa, particularly in the formulation of educational policy, was intended to form the basis of subsequent educational development. It was therefore basic and comprehensive, while American assistance was directed to "filling the gaps" in the educational systems of West African countries.

In pursuit of the American policy, for example, two comprehensive secondary schools were established in Aiyetoro and Port Harcourt in Nigeria. The schools incorporated, what Senator Ellender considered to be "the best principles and practices of American and European comprehensive schools;"2 namely, 'grammar school curriculum' as well as vocational and technical education adapted to meet Nigeria's needs.

Similarly, at Nsukka in Eastern Nigeria, Michigan State University under contract with the Agency for International Development assisted in the establishment in 1960 of the first land-grant college in West Africa. The founder of the University of Nigeria, Dr. N. Azikiwe, had indicated the philosophy on which the type of institution of higher education he had in mind should be founded. He explained that the proposed University's activities were to be related "to the social and economic needs and the day-to-day life of the people of Nigeria... This calls for a realistic approach to the problems of higher learning in our system of education."3

Thus, unlike the dual system in England where university and technological studies have by tradition been provided in separate institutions, the University of Nigeria, in Nsukka, influenced by the American land-grant philosophy, provided within the same university and under American educational personnel courses in the faculties of science, technology and research, arts, social studies and medicine. American educational assistance, like the British assistance programme, has been the best means of conveying U.S. ideas, techniques and know-how.

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1 Ibid., p.16

2 Allan J. Ellender, A Report on U.S. Foreign Operations in Africa. U.S. Senate. 88th Congress. Document No. 8. 1963, p.48.

3 An address delivered before the inaugural convocation of the University of Nigeria, October 13, 1960, reproduced in the University of Nigeria, Calendar, 1964 - 65

During the mid-1960's there was a renewed emphasis on American educational assistance to Africa, intended to build "directly the most vital ingredient of growth; skilled people and functioning human institutions." 1

In this endeavour, the development of institutions of higher education in Africa received prior attention on the premise that development depends on leadership in government, industry and educational institutions, and that training for leadership is the "business of the Universities." 2

African Higher Education Programme

The new programme was proposed by Congress in 1967 "to enable more African students to receive higher education on the African continent instead of overseas... to help promising African university faculties in development-related fields to become fully qualified regional centres of education."3 Emphasis was placed on training African students in applied science and technology, and the development of 'centres of learning' and regional co-operation in educational assistance in Africa 'for pooling of knowledge and experience.'

Examples of centres of learning in West Africa are: Njala University College in Sierra Leone to provide work-study activities, experimental agricultural and basic research functionally related to the needs of West African countries to enable them to increase their food production. Ahmadu Bello University in Nigeria was assisted by the Agency for International Development to meet the requirements for trained Africans in veterinary medicine in English-speaking West African countries.

Conclusion:

British and American policies of technical assistance to education were concerned with statements of general principles which, though allowed scope for local application, do not lend themselves easily to rigorous assessment in terms of achievement.

The concept of educational adaptation in British policy was given a broad definition to include the modification of the curriculum to suit cultural as well as economic needs. In contrast, American policies stressed adaptation of education to specific crucial needs of the assisted country in health, agriculture and education to promote economic development.

Belief in the close link between education and economic development is given primacy in American policy, and this is reflected in American interpretation of the concept of educational adaptation. The African Higher Education Programme aimed at producing African personnel with qualifications in applied science, technology and agriculture required for economic development in the assisted countries.

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1 U.S. Senate, Foreign Assistance and Related Agencies Appropriations for 1965. 88th Congress. 2nd Session. Washington: U.S.Government Printing Office, 1964, p.7

2 William Y. Elliot, op.cit., p.219.

3 U.S.Congress.Foreign Assistance Act of 1968, 90th Congress, 2nd Session,p.280.

While the British authorities did not belittle the contribution which education could make to the economic development of the West African countries, they believed that education should be multi-purpose. It should perform other non-economic functions, like raising the character and efficiency of the bulk of African people, as well as narrow the gap between 'chiefs and peasantry.' It is in this sense that the British definition of educational adaptation is broader than the American definition.

It is evident from their policies that British and American authorities do not suggest that technical assistance to education is a charitable, purely disinterested activity. It is adapted both to the needs and conditions of the developing country, as well as the donor's own national interests. These national interests, which have received varying emphasis at different periods, have been political and strategic, economic, social and humanitarian.

American policy, unlike the British, has been determined by its security interests rather than its trusteeship responsibilities to the recipient country; the strategic importance of the assisted countries rather than its historical links with them; and American educational assistance was regarded as ancillary to its political-military programmes.

In the immediate post-war period, America showed greater interest in strengthening its military positions and alliances to prevent another global war than in adapting the slower methods of education to build defences of peace. Such educational assistance that was provided was regarded chiefly as a 'cold war' weapon.

British and American policies of higher education in Ghana have introduced diversity in educational institutions in West Africa. At the higher educational level in Ghana, British policy underlined university autonomy and academic freedom and high academic standards. American policy has laid emphasis on the applied sciences, technology and agriculture, and on the widening of the existing curriculum to take account of national and individual needs. This diversity has fostered a climate of flexibility in the entry requirements and responsiveness to innovation, such as the increasing provision made for the training of middle-level personnel in Ghana Universities.

Since the 1960's, there has been a growing realisation that technical assistance to education is a long-term programme intended to promote economic and social development, rather than short-term assistance to dependent countries to attain political independence. As I.M.D. Little has observed, the old optimism of "development in a decade" is giving way to "development in half a century."

THE IMPACT OF LONG-TERM EDUCATIONAL ADVISORY EXPERTS ON THE DEVELOPMENT OF NEW NATIONS

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Summary

Reference: Vol.3 (1970 - 71) D4 (p42)

This is an examination of the extent to which long-term, high level experts operating under technical assistance schemes have contributed to the development of new nations.

It is based on a review of the hortatory literature addressed to experts, the constraints within which experts work, and interviews in Paris and London in May - June 1970. By reasoned academic argument the author supports the pro-position that the expert cannot and does not make any appreciable contribution to the development of new nations.

Report

Technical assistance was a big item of expenditure in the aid budget of western nations between the years 1949 and 1956. After that it fell into disfavour as western nations placed more emphasis on financial assistance as a means of increasing available capital in new nations. However, as aid budgets have begun to shrink, the relative importance of technical assistance in those budgets has been increasing in the last three to five years.

It is in view of this development that I undertake to make a study of the extent to which experts have made, either individually or as a groups, a contribution to the development of new nations. I was also interested in the differences in recruitment, training, and on-the-job performance of experts who were part of bilateral assistance programmes on the one hand and multilateral assistance programmes on the other. This paper presents only a part of my findings.

Technical assistance is one of the means which developed nations put at the disposal of developing nations to enable the latter to get closer to the standards and ways of life of the former. Technical assistance attempts to help fill gaps between the skill requirements implicit in development plans and the domestic stock of skills. It also aims to strengthen and supplement a country's capacity to produce new skills via its educational system. In the process of doing this technical assistance may help to inculcate "development mindedness," push latent entrepreneurship in the right direction, help discover natural resources, and help discern and promote growing points in the developing economy, thereby accelerating the development of these countries. Three distinct but interrelated aspects of economic growth are expected to benefit from such assistance: techniques of planning, operation

and production; institutional framework and organizational structure; cultural values and attitudes.

If money and goods are the means by which financial assistance is provided, people are the means by which almost all technical assistance is given. They may be administrators of donor or recipient organizations, experts of all types, and scholars who go to developed countries for further study. In this paper we will only deal with "experts." Experts may be classified according to the agency of sponsorship (nation-state, international agency, private organizations), the time of their service (long-term or short-term), the geographic unit (country or region which covers many countries such as South Asia), and function (advisor, teacher and trainer, operational worker), and level (high level experts, middle level expert, etc.). My concern here is with long-term high-level advisers who go from one country to another under official bilateral or multilateral agreements. Some of my observations may be applicable to other kinds of experts as well.

The expert is expected to render advice on the basis of his professional competence concerning the technical aspects of problems which he sees or are brought to his attention. Legally he is forbidden to participate in the political and decision-making processes of recipient governments, although most experts cannot help do this some of the time either by the inherent nature of their work or because of specific invitation by the host government. The hortatory literature addressed to the expert, however, is full of cautions and warnings on this point.

There is also in the literature considerable discussions about the qualities of the ideal expert, problems of recruiting and training experts, the difficulties experts and recipient countries face in developing satisfactory relationships, the personal frustrations experts have to cope with, and the difficulties of evaluating the impact of any expert or group of experts on the development of a new nation, and suggestions on how to deal with at least some of these problems. Space constraints compel me not to deal with them here and to state briefly the following propositions.

1. Even after granting the difficulties of evaluating the contribution of experts, the evidence available in the literature and which I collected in interviews in Paris and London recently indicate that the expert makes very little or no contribution to the development of new nations. As Ladislav Cerych puts it, the complaint of many persons in developing countries is "We may be under-developed, but we are certainly 'over-expertised'."

2. There is growing dissatisfaction with attempts to explain the relative ineffectiveness of "experting" in terms of shortcomings of individuals whether they are experts or their counterparts.

3. Similarly, while granting in specific terms the relevance of some problems such as the unavailability of suitable candidates and the tendency of most experts who are recruited from the universities to be abstract instead of concrete in providing advice, theoretical and practical considerations cast doubt on the general validity of some of these "problems." Two examples must suffice now. What good is it to complain about the lack of adequte secretarial assistance in developing countries when this inadequacy is itself a result of the

underdevelopment which the expert has come to help alleviate? Or the description of the ideally suitable persons in some of the official and non-official documents convinces me that such mortals, if they do exist, are not only suitable for experting but also for canonization. Even if there are candidates for sainthood among experts, it is doubtful whether they will make contributions of the quality, magnitude or scale required to bring about accelerated development.

4. A significant minority among scholars and policymakers are calling our attention to the constraints within which experting is done, and asking whether or not, or asserting that, these constraints are the most significant causes of the ineffectiveness of experts. In this connection, may I call your attention to G.C. Ruscoe. The Conditions for Success in Educational Planning (Paris: International Institute for Educational Planning, 1969) although I consider some aspects of his analysis inadequate.

5. One of the most important constraints is that experts are not enterpreneurs. They are component parts of complex hierarchical structured organizations. Organizations, whatever the purpose for which they were brought into being, develop, over time, rules and regulations for their own survival which may take precedence over goals such as promoting development.

6. Official technical assistance is a special form of relationship between governments which - it is commonly acknowledged - leads to compliments being freely (indeed sometimes comically) exchanged and criticisms watered down. International agencies and government must be very careful not to offend each other. No official technical assistance programme has succeeded where the governmental agencies have been offended by implicit or explicit criticism. This is another constraint.

7. The extent of the success of expert advising-indeed technical assistance programmes - depends on the development of that field of knowledge in the developed nation. For example, the techniques of controlling certain diseases were highly developed in the west. Therefore, it was possible to transfer these to developing countries with great success. It is not possible for the developed nations to claim with any certainty that their techniques of economic or educational planning, forecasting etc. are comparably advanced. Indeed, the theory of economic and social development is rich in speculation and poor in firm knowledge of how development takes place. Thus, the expert adviser cannot claim to be any more knowledgeable on this subject than the people he is advising.

8. Specifically, the two conceptual anchors of social change theory on which technical assistance rests, are diffusion and acculturation. The diffusion is seen to spread from the metropoli of developed nations to the national capitals of the underdeveloped ones, and from there to the provincial capitals and eventually the hinterland. As a result of the diffusion of knowledge, skills, organization, values and technology, the developing nations, in time, become variants of that which made the developed nations successful.

I do not have the space here to go over all the criticisms which can be made of this approach to social change which encompasses sociological and psychological frames of reference. However, I do want to make two points:

(a) The process of economic and social development does not benefit everybody at any given time. In fact, that process usually hits, rather hard, those who are reasonably well-off now and have the money, power, and political influence. The diffusion theory of social change blithely ignores these institutional, political, cultural and economic blocks to diffusion. Some diffusion theorists and strategists have attempted to accommodate these blocks by developing the concept of "absorptive capacity". While the concept has utility in pointing up, and dealing with, problems associated with lack of knowledge, lack of skills and lack of management experience, it can not dealt adequately with institutional, social and cultural constraints in a society. Expert advice and other forms of foreign aid therefore tend to be blocked by vested interests at certain points of the imaginary diffusion line. That is why foreign aid benefits proportionately and absolutely the better-off groups in developing countries than the majority of poor people.

(b) It would be extremely naive on my part, now that I have introduced political, economic, and social structure considerations on the recipient nations' part, to ignore the role these considerations play on the part of donor nations. That they exist is readily admitted but not much research has been done on how they affect the process of recruitment, selection, and on-the-job performance of experts. I expect to find significant differences on this subject between bilateral and multilateral aid programmes. There is considerable truth, indeed, in the statement that "Foreign aid takes from the poor in rich countries and gives it to the rich in poor countries."

In this paper, my posture has been that of an academic who is interested in policy without being a Manichean; who tries in his research endeavours to seek to understand policy. I did not undertake policy-oriented research in this instance, so I do not have any recommendations to make in this paper. But if I had to make a recommendation, I would be facing the dilemma that the rapporteur of an OECD Conference on Development Plans and Programs wrote about:

> In (some cases,) nothing but a change of government, which in some countries might require a revolution, could pave the way for effective development. It was not felt, however, (concluded the Conference rapporteur) that the planning of revolution as such belonged properly to the curriculum of institutes of development planning. . . . . .

Or, the discussion section of the First World Congress of Comparative Education Societies.

A COMPARATIVE STUDY OF TRADITIONAL AND CONTEMPORARY SOCIAL SERVICES IN KOOKI

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Summary

Reference: Vol. 3 (1970-71) R3 (p.173)

The thesis gives a detailed description of the development of various customs and traditions of the people of Kooki, and the conditions under which they live.

It underlines the need for health services, an adequate water supply, improved techniques of and machinery for food production, better roads and education.

Report

The Country

Kooki is literally a part of Buganda region since 1896,[1] a county in Masaka District, about 150 miles from Kampala due south towards Tanzania. It is bounded by Kabula county on the north-west, Ankole district on the west, Kyotera county (which was part of Buddu county until 1967) both on the north and east and Tanzania on the south.

The county is administered by the Ssaza chief whose headquarters are at Rakai. The county is divided into five sub-counties "Gombolola" namely Ssabaddu, at Lwamaggwa, 22 miles from Rakai on the way to Kabula/ Ankole; Ssabagabo at Buyamba, 7 miles from Rakai; Ssabawali at Byakabanda, 3 miles; Musaale at Kibanda,16 miles from Rakai on the way to Tanzania; and Mumyuka at Lwanda, 9 miles from Rakai on the way to Masaka town. The county is sub-divided into 23 parishes "Miluka". The grand population according to 1967 figures was 40,223 of whom 19,645 were men, and 20,578 women. All roads in the county are covered with murram; there is not a single petrol station in the county, the nearest one is at Kyotera about 20 miles from Rakai the Ssaza headquarters on the way to Masaka.

Kooki is a hilly country except for the depression in which lies Lake 'Kijanebalola' and along the river Kibale; Lake Kachera, L. Karunga on the boundary with Ankole, and the swampy strip which stretches into Kooki from Ankole through which runs R. Ruizi. These low lying areas are swampy with thickets, bamboo and small forests growing in valleys between hills, and along rivers especially in the south.

Most of the hills in Kooki are used for ritual purposes - and are said to possess supernatural beings and objects.

Besides the hilly and swampy area, there is a stretch of plains of woodland, shrub, scattered trees and palms. The soil is clayish, dries hard, and cracks during the dry seasons. During rainy seasons many areas get flooded, the soil is slippery,[2] and movement especially by vehicles is almost impossible. Until the 1940's Kooki was renown for having swarms of mosquitoes which bred in swamps, and along the banks of the few rivers, such as Namunnengo and Kakindu during the rainy seasons.

Kooki is supposed to enjoy the same seasons as the rest of Buganda, i.e.

Toggo rains - Feb - half of May

Dry season - June - August

Ddumbi rains - September - October

Dry season - November - January

But rainy times are not very reliable. There are longer periods of dry seasons and shorter rainy periods than expected; therefore rain making is one of the main, prevalent ceremonies done all over the country.

During droughts, the grass dries up, food becomes very scarce, water becomes very difficult to get, and herds of cattle are moved either nearer to the lakes or by River Kibale or across to Buddu county. In September/October 1969 many people lost their calves on account of the shortage of water and grass. Otherwise the country is good for herding and cultivation and a reasonable percentage of male inhabitants do fishing on L. Kijanebalola, L. Kachera, and R. Kibale. Almost every woman "worth the name" can make pots and other types of vessels from the clay[3] obtainable around the home.

People

The Mukooki (a Kookian) has four main sources of origin - he might have ancestors say, in Kiziba, Ankole, Bunyoro or Buddu (Buganda). The exception will be the Kookian who claims to be the original inhabitant of the country.

The Bunyoro came to Kooki about the first half of the 16th century during the reign of Lukaga I the Omukama of Bunyoro. His brother Bwhoe (Bwowe) who was settling in Bugangazi (near Bukuumi) decided to find a better area for grazing. He came through Buddu county, fought and conquered the indigenous rulers of Lugala, Buyamba and Gombe and settled at Kooki[4] hill. The Bunyoro conquered the whole country even Lwakaloolo area which was part of Ankole. The Bunyoro brought cattle with them and attracted Bahima from Ankole to come and graze their cattle. The Bunyoro became the members of royal blood, consequently, the ruling lineage. They intermarried with the Bahima and acquired the Bahima customs and language rather than that of the indigenous Bakooki or the Baziba, who, as the result of Bunyoro's conquest, had lost both power and influence. Ruhima language was and is the language spoken among the upper class gentry and by members of the Royal Family. Both men and women servants in the palace learnt Ruhima as the language for official communication. Today a reasonably big percentage of the inhabitants of Ssabaddu and Musaale Ggombololas are of Ankole origin and move with their cattle to and fro according to seasons.

The Baganda, in the first instance, entered Kooki in large numbers immediately after the signing of the agreement between Kamuswaga (Kooki) and Mwanga (Buganda) (1896). Sir Apolo Kaggwa, who was the Katikiro (Prime Minister) of Buganda at the time, sent a number of Baganda chiefs and clerks to help with organizing administration, running councils' meetings and taking records. Chiefs took their families with them; and relatives went to settle. They cultivated like the original inhabitants, intermarried with the natives, and through marital relations influenced the Kookians to take on Baganda customs and behaviour. Luganda became the language for everybody, even for the members of the Royal Family (who then spoke Ruhima as a domestic language) and big chiefs (who spoke a mixture of Ruhaya and Rukooki as a domestic language).

The Baganda also went to Kooki as missionaries in the 20th century. The C.M.S. made Rakai the headquarters for missionary work in Ankole and Kigezi. Many Baganda missionaries collected at Kajuna[5] Mission station before they were taken to Rakai for preparation after which they left for Ankole, Kigezi and Kiziba areas.

Kooki has been receiving immigrants from Ruanda, Burindi[6]; and Kigezi as well. They have opened plots (Ebibanja) in places which have been left unattended by the natives. Their customs and patterns of behaviour have not yet been well assimilated into Kooki culture, however, the immigrants are adapting themselves to the Kooki life and customs, and the Luganda language. The Baganda influence on the Kooki society is noted in the modifications made in the marriage ceremony.

The Kooki clans emerged with the Buganda clans in 1896, and the heads of the clans in Buganda took the responsibility over similar clans in Kooki; and, consequently, clan affairs and confirmation of both the Kamuswaga and the sub-heads of clans in Kooki came under the powers of the Kabaka of Buganda. Like the rest of Buganda (considering that the Bakooki are Baganda also) the Bakooki had and still do have their loyalty in both the Kabaka and the Kamuswaga as the source of stability, and wealth. Much of what goes wrong in Kooki at present is believed to be a result of the abolition of both the Kabakaship in Buganda and Kamuswagaship in Kooki.

The 1966 uprising left the country in terror. 11 people were shot dead at Byakabanda, some other terrifying instances took place in Kooki and in the immediate neighbourhood in Kooki. This situation made research in Kooki a difficult exercise. Strange people were regarded as detectives; people driving unknown cars in the area were taken to be members of the forces who could shoot at anybody; so people would hide, and unless one got some people who were well known in the area, it was next to impossible to see a person or talk with anyone until this year 1971.

Social Services

The Bakooki like other human beings in other societies catered for the basic human needs, namely, food, shelter, and health. To maintain services was a responsibility of the family, the community, the society and the Omukama (the king) as the last resort.

Traditional Education

The education of a child first began when a baby was able to see things and hear voices; then the mother, the girl or boy nurse[7] or any person holding it could talk to it, make expressions, vary intonation, show it things, and say words to make an impression on the baby. Gradually the child knew what sort of things to avoid, such as, insects or any creeping objects, hot and/or dirty things; for example, a pulled face, the words "Luma" (bite) and "kooko" (animal) implied danger. A smile, words in a smooth, gentle tone, and throwing up the baby in the air and catching it as it came down implied happiness, pleasure and joy.

When a child began to walk and speak he joined older children in going places and playing. He was made to act as a baby to a married couple in a marriage play, or made to sit looking after objects like seeds, stones, leaves which had been collected and put away until the right time when they would be needed in play. Much of the play between the ages of three and eight were a reproduction of adult activities, functions and ceremonies, such as, a marriage occasion, building a house, making bark-clothing, or attending to babies which were in toy forms of maize cobs, sticks, and other improvisations. By the age of eight a girl had been introduced to feminine domestic duties like preparing food, gathering greens, pieces of food and water for cooking and washing up utensils; a boy had been going about with father and older boys and had been introduced to rearing goats.

Up to the age of eight, the education of a child was mainly through instructions by elders, participating in work done, and in group work-play in the jungle caring for goats. If a homestead did not have boys of the right age, girls undertook to grazing goats with boys from the neighbourhood, and joined with them in games and sport; the girl continued to do this until she was about fifteen and ready to get married; then she concentrated on domestic work. At times, once a week or so, particularly on occasions when a girl returned from a visit, she was inspected by her mother to see if she were still a virgin, for a deflowered girl lost her family respect; she had become a shame and her parents could not prepare a wedding ceremony for her at her marriage. Above all her action caused blame on her mother who was accused of having neglected her daughter.[8]

The education by instructions and participation enabled both the boy and girl to learn how to provide for basic human needs - food, shelter and health; to share with the community the opportunities and occasions of rendering communal services such as building a house, gathering in a ready crop, and even collecting leaves, roots, bark of trees, etc.... as medicine for a patient.

The second type of education was through "Childplay". I talked about child play between the ages of 3 and 8. At about the age of six to eight, depending upon the home, a boy (or a girl if there was no boy in the home) began to take goats to the jungle and join other boys in looking after them them. As boys led their goats away from home, they made musical sounds for the others to hear and make haste to meet at the ground that had been decided upon the previous evening at the close of the grazing day. When they came together, they voted upon the leader for the day. The leader selected some boys to watch the goats in turn while the others played; if they neglected their job and the goats strayed, the rest stopped playing, gathered the goats back, and then punished the defaulters. Such treatment was kept a secret from people at home, and if any boy reported it the offender could either have a

bigger beating from the group or he was expelled temporarily.

Most of the games they played were a modification of those played by the Baganda children, such as, playing with wheels made of either twigs or runners, throwing pieces of stick to see whose stick went farthest, throwing bananas in battle-like play, spearing or shooting at running objects with sharpened reeds, sliding down steep slopes or plantain tree logs, climbing trees at speed and jumping from branch to branch, (mainly girls), hide and seek, wrestling and marriage games, including such things as bride wealth, building huts and playing some music for the wedding party and organizing a wedding reception on the pattern of a formal wedding. The play at Kamuswagaship included dressing the Kamuswaga with a crown made of leaves, giving him a stick for a spear, appointing guards who wrapped their legs with fibre, and Kamuswaga in turn appointing chiefs for various positions.

The youth learnt tactics of organisation, social control; applied positive and negative sanctions according to established codes of behaviour; were encouraged to initiate ideas and plans; made visual imitation of adult functions and social activities, and without being exact, they practised various roles played by adults. When a girl had her first menstruation, she stopped playing with boys. She did not climb trees anymore, and left off looking after goats. She had become a woman.

Looking after goats, the new and less experienced children learnt about diseases, colours and appearances of goats and grass and medicines required for making goats healthy. They helped she goats to deliver, removed ticks, and were trained in slaughtering without either destroying the skin or making the meat dirty. When a boy became sixteen or older, he left rearing goats to younger brothers and sisters, and he, like his sister who joined her mother at her first menstruation, joined his father for post primary traditional education which was intended to prepare both for mature and adult life.

From the age of eleven, a girl could cook a meal for her homefolk and could be left in charge of her younger brothers and sisters. She joined her her mother, other women, or big girls in collecting wood from either the forests or thick bush, fetching water in much bigger pots, cutting grass and covering the floor of the house, making baskets to carry food, and making mats for bedding and sitting on. She learnt to make clay pots, bowls, etc.., and did all in her power to learn to cook. She was encouraged to entertain visitors, and to look clean and tidy before strangers. During the following four or more years, all her lessons were inclined to preparing her for marriage.

The boy's communal education included joining his father or adults in doing communal work, i.e., building houses, making roads and constructing bridges, going to meetings with his father and sometimes representing his father at lineage, clan or domestic meetings. During his spare time, he continued with making snares for catching small animals and birds[9] or went to play games like wrestling. At about twenty, he was old enough to marry and qualified as a full member of the society.

The third type of education was nearly occupational. Bark Cloth Making. The Baganda and the Baziba introduced bark-cloth making, hunting and fishing. A boy joined his father or his guardian in the morning to go to make a bark cloth. This work had been started at about 2 p.m. in the previous day when both had scrapped the bark off the tree. In removing the bark, the father used a piece of a plantain tree which

he continually pushed between the bark and the trunk, and cut off a piece at the top and at the bottom end, of a width of about 3 ft. which he beat and stretched out to the right width. The youth helped in holding the knife, holding firm the ladder, and holding the piece when father scrapped the skin off the bark. Some barks were cooked or heated before they were worked on, and the youth helped in collecting wood, making a cave in which the bark was heated, and in covering it tight to stop heat from escaping. He also helped in pulling out the bark after hitting it to the right width and in stretching it out in the sun either at intervals or at the end of the making.

For practical work, small boys were encouraged to make bark clothes from the bark stripped off the big branches; the clothes were their own property, and they could give some to their sisters. If a boy made a really good bark cloth for the first time, he gave it to his mother.[10] From that time on he became a partner to his father in the job.

After the bark was removed from the tree, the trunk was wrapped with banana leaves for three to six days during the rainy period, the very good trees being smeared with either cow-dung or butter. The wrapping stopped both the sun from hitting the tree and the rain from washing off the sap. Cow-dung and butter helped in repairing the tree in such a way that it did not have scars. The individuals who succeeded in making excellent bark-cloths were reported to big chiefs, who consequently recruited them to join the Royal bark cloth maker, "OMUSAAKA", who lived at Kamukalo village.

Making of bark-cloth was a collective effort especially from the second stage, "OKUTENGA", and definitely for the third and the final stages, "OKUTTULA".[11] Therefore, the group of men who worked together mobilized their wives in turn to bring food to the shade "Omukomago" where men worked. It was taboo for a woman in menstruation to take food to the shade, so women either worked in turns or sent their daughters instead to take food, gravy, greens and water to the shade for lunch. Making bark cloth encouraged the spirit of co-operation.

When a boy grew to be fourteen or older, or particularly when his voice broke, he was told the taboos connected with bark cloth making, such as: that, between the time of cutting a tree which was to be used in the shade and the lying it down in the shade, no man participating in the work was allowed to go to bed with a woman; it was alleged that all bark cloths made over that trunk would split if he did. Also when girls grew breasts, and especially when they began to menstruate, they were strictly forbidden from walking over the lain trunk in the shade, as it too had the same effect.

In addition to bark-cloth being used for dressing, it was also an article of trade. The Kookians traded both in bark-cloth and in beads with Banyankole in exchange for salt, with Toro and Busongola people for elephant tusks, with Baziba (Bunyanyimbe) for shells and beads of various colours.

Hunting - A boy also trained in hunting. He joined the group of hunters who went to the allocated piece of the jungle, and helped in making a noise and beating the bush to frighten the animals out towards the nets where men with spears waited to spear them as they ran into the nets. Bit by bit a boy could becomes a good experienced hunter as a result of constantly taking part in hunting expeditions.

An expert hunter got up early in the morning at about 5.00 a.m. and went out with his son to track animals - like bush buck, antelopes and pigs.

His son observed signs and marks which interested his father or guardian. Then they made a track around enclosing the animal, and went back to the village. Shortly after lunch time, the father or son sounded a horn calling together all people interested to come and join in the expedition. People came with nets 12 or so feet long and six to eight feet wide, sticks, spears, big knives and dogs. The tracker led them to the enclosed area; he directed the men with nets where to stretch the nets, and the young men to stand well spaced out ready to shout and beat the bush to the best of their ability. The leader of the dogs who wore bells round their waists went in, as the men said the words to encourage dogs, "Eat, the whole animal will be yours if you find it. You will be served in a bowl and I will eat off the banana leaf; you will be made to sit on the mat, and I will sit on the bare floor". The dogs followed the smell of the animal, the man keeping track of them by the help of the bells, and continuing to encourage them by shouting hard and by calling them good names and making promises until the prey came out.

When the dogs found the animal, they would try to catch it, and it would run to the area where there was no noise at all. This was where nets had been stretched. It would run head-long into the net, and the net keepers would spear it. Whoever had his spear into the animal shouted out to enable all to note who was the first, and the subsequent ones. The position of the spearman in spearing the animal determined his share. The skin went to the man who found the animal, the meat was shared among the hunters and the local chief on whose land the animal was killed.

These two occupations, making bark clothing and hunting, in addition to rearing goats and grazing cattle provided the Bakooki with some material to cover their bodies. Traditionally they dressed in grass pads, leaves of grass and skins. The soft hides were for members of the royal family and the big chiefs. In the second half of the 19th century, the Arabs introduced cotton clothing "Malekaani" (from America) and "Japani" (Japan made) in the country, and the inhabitants were enforced by both the missionaries and the Government officials to wear them.

Fishing

Boys also learnt fishing. There are twenty four fishing spots on Lake Kijjanebalora. Fishing is also done in rivers during floods for "Emmale" and "Ensonzi". Fishing was a clever occupation. Good fishermen were able to tell times when a particular type of fish was available, based mainly on the height of the water in the rivers. Some fish such as "Ensoonzi" were caught in small baskets "Entukulu" while bigger fish i.e. "Emmale" needed big baskets "Kigomo". Other smaller fish,i.e.,"Obuyamba" were forced to run into an enclosed area where a current of water ran. The fish in trying to escape through a narrow outlet ran into a snare, and they were caught in that way. At times, fishermen used hooks and snails on them for catching fish in rivers.

Most fish was consumed in the local market. Every morning women and children took articles of raw food and leaves to the lake side to exchange for fresh fish. River fish "Ensoonzi" were dried up and sent to Buganda either for sale or as a tribute to the king of Buganda. There were no other outlets for fish because people in other neighbouring societies: the Baziba and the Banyankole did not eat fish.

Since 1947, some new fish have been bred in Lake Kakyera and Lake Lake Kijjanebalora, but since 1967 Bakooki complain that lakes do no longer breed as much fish as they used to do; they say that the periodical rituals

which Kamuswaga or his representatives used to perform at an island called "Kensonzi" are no longer carried out. In fact there are two causes for the shortage of fish in Kooki. First during the 1966 political uprising in Buganda, which affected Kooki as well, many local fishermen ran away from the lakes and had not yet fathered courage to go back. There has also been a long drought. (They think that it is because Kamuswagaship was abolished). Because of the drought river water has been too low for efficient fishing. Second, fish which is being caught at some ports are carried to Masaka town or to some other parts of Buganda by taxi drivers and cyclists where there are good markets for them, so the circulation of fish in Kooki has become terribly limited. Fish is at present very expensive though plenty is caught daily from Kagologolo, Nabusozi, Kowororo, Bbale, Rwenswara and Ntovu.

The Present System of Education

Kooki enjoys the system of education as the rest of Uganda. The first two oldest schools, namely, Rakai and Kasozi, were started by the Church of Uganda (C.M.S.) and the Roman Catholic Mission (R.C.M.) respectively. The third school Kamengo was built by a single Moslem's efforts, Mr. Musigire, at Kamengo in the 1920's. In 1964 there were six registered primary schools, and one primary seven schools all making up a total of 1627 boys and girls. The school enrolment for the year 1969 showed twelve Primary Seven schools, namely, Kamengo*, Kakoma*, Mbuya, Kasozi, Kakabagyo, Buyamba, Kimuli*, Rakai, Mannya, Kifamba, Serinnya and Kyakago*, with a total attendance of 1298 girls and 1004[12] boys. The total teaching staff was 73 men and 25 women. There are three Private Senior Secondary Schools (Grade B), two of which, Rakai and Kakoma, belong to the Church of Uganda, and Kasozi to the Roman Catholic Church. Children who do well at Primary Seven Examinations go outside Kooki to either Kako, Kitovu[13] Bwara or to other schools in the country.

There are no nursery schools in the country. Most children go to school at the age of seven or eight, except those whose parents live near schools, who may go to school between five and seven years of age. Many children still rear goats, still work with their parents at fishing, making bark cloths, and at collecting clay and making pots. Most of those who go to school walk long distances to schools, the longest distance being between five and six miles each way.

Parents complain that children are not as obedient to their parents as was the case in the past. One woman told me that her daughter would not even help her with cooking when she returns from school. A reasonable number of girls have had pre-martial pregnancies, which, according to the Bakooki is something one could never have expected to happen even when girls and boys used to graze goats together.

Teachers have a big problem of travelling to Masaka town to see the District Education Officer. Transport is sometimes very scarce, and roads are really bad. Headmasters tell me that many children stay at home temporarily because their parents cannot afford to pay fees. However, it is impressive to note how keen parents are to keep their children at school with their meagre income based on the sales of coffee, sorghum, and the produce of domestic industries like bark-cloth pots and knives.

* These schools do not appear on the 1964 enrolment.

Health

Life began when a woman fell for a baby. A woman reported her pregnancy to her mother-in-law when she had missed two menstruation periods. The mother-in-law then began to treat the expectant mother: four types of medicine were used. First "Emmumbwa". This is a collection of medicines all embodied in a lump of clay, some six or seven inches long; dried up and ready for use. This is believed to cure a multiple of diseases. Second, leaves which are squeezed out, and the stuff is drunk. Third, medicine particularly prepared for curing syphilis; and fourth, medicine mixed with water for bathing. In the seventh or eighth month, the mother-in-law, friend or relative, tried to put the feotus in the right position by rubbing the stomach "okutenga" twice a day.

In the eighth month of pregnancy, the expectant woman began to use medicine which is supposed to make delivery very easy - this is called "okumenya amagumba" - to break or soften bones. Two things were done. First, a woman was made to sit in medicated water twice a week, increasing to three times a week in the 9th month. Second, she rubbed some medicine mixed with butter or succulent plants over her vagina as often as she was instructed. The mother-in-law took the responsibility over the treatment.

A pregnant woman avoided a number of things, for example,[14] eating fish, shaking hands, walking over the legs of a man except her husband's and above all she did not go to bed with another man. It was believed to cause an illness called "Ebigere" (Feet) implying that she walked to many men's places, and this disease could kill both the mother and the baby.

When the labour began, she was given a root of "Ejjobyo", a green vegetable, to chew. If normal delivery could not be achieved either the husband was asked to offer a simple offering such as a hen to the Gods, or the midwife in attendance pushed her hand into the woman "Okugoberere" (to follow) and help in pulling out the baby. Such instances were rare, for women tell me that this situation happened only if the expectant mother had not been well cared for during pregnancy.

When the baby arrived, the midwife removed the stuff from its mouth and ears, and blew up the nostrils to make it sneeze - a sign of good health. Then she cut the umbilical cord off with a sharp strip of reed, put it on a piece of fibre near the mother's bed "Akaali" for two days. Then the cord was wrapped up in leaves of a castor oil tree and of a thorny tree called "Omuyirikiti". Each clan had a different way of treating the cord "Okubyalira", yet three ways are common: some clans buried "Okubyalira" the cord in the house; others buried it outside near a male plantain tree "Embidde" for the boy and near a female plantain tree "Nakitembe" for the girl. The baby was kept indoors for four or three days, for a girl or a boy respectively. It was believed that a baby would catch diseases if it were taken outside the house sooner.

A baby was and still is bathed in a bowly "Ekyogero" in which a lot of medicine is collected, cooked and given to the baby to drink (in very small quantities) before it is bathed. Medicine to prevent or to cure disease, and some to bring good luck to the baby, especially in the case of girls. It is even said today that a girl who does not attract men to herself, however ugly she may look, might have had a neglective mother.

The Bakooki women breast-fed a child for two or three years, as often as the mother felt a desire to feed it, or when a child cried. In most cases a child was washed, (especially before it was a year old) before a feed.

Children suffered from the following diseases, Skin rash "Ennoga" when it was supposed that the woman had eaten "Ntula".
"Ebbugumu" heat
Syphilis - inherited from parents
Stomach pain - the father or mother committed adultery causing vomiting and quick bowel motions to the child.
Fits - the mother had eaten much cassava
Fevers - caused by either heat or insect bite
Looking pale - worms in the stomach, or mother is pregnant before it is weaned.
Akamiro - "the throat" the child does not get fat, and dislikes to suckle or eat.

The treatment was usually given by old women, especially the husband's mother or co-mothers. There was a specialist woman in child care - A saying "Omukaikuru wahai tomuwera kuwa" implies that "if you do not provide a nearby old person with her needs, she may refuse to treat your children when they fall ill". However, a girl of about fifteen is instructed into preliminary treatments for children's simple complaints.

Old people were, and still are, in most cases, the general practitioner. The patients whom they could not treat were referred to local doctors (medicine men) in the area; if, however, they too found it difficult, it was up to the patient's relatives to remove him to a well-known doctor in the region, or go to a diviner who suggested a cure by giving a sacrifice to gods and to propitiate the spirits. The transporting of patients to native doctors and even to hospitals was until 1967 a communal responsibility. If a patient had no relatives to carry him to the hospital, the local chief selected some men to carry him to hospital. These days the patient hires means of transport to the dispensary "Rakai", or stays in the village under the treatment of a native doctor until he either gets cured or dies.

There is one dispensary in the country at Rakai, and four medical aid posts at Lwamaggwa, Rwanda, Kibanda and Kifamba. Each aid post is visited by a Medical Assistant from Rakai once a week. During the rainy season, he finds it difficult to visit them as scheduled due to very bad roads. Serious patients are referred to Kalisizo sub-hospital, 20 miles, or to Masaka hospital, nearly 50 miles, from Rakai, respectively. There is a maternity wing at Rakai, but many women from Kyotera side go to a Roman Catholic Mission Maternity Centre at Bikira, some thirteen miles away from the Kooki/Kyotera county.

According to the situation, the native doctor is still in active service, and the medical service is available either for those near Rakai or near to the Medical Aid Posts; to those who have easy means of transport, to those who can afford to pay bus fare to the centres, or for the serious patients whom the Medical Assistant gives an ambulance to take them to either Kalisizo or Masaka Hospitals.

Community Work and Organisations

The Community Development is working hard to improve standards for healthy living in Kooki. They have a Community Development Centre at Lwanda which was opened on the 18th August, 1967 by Mr. Katiti, (the then Minister of Culture and Community Development). Three more are being built at Byakabanda, Buyamba and Rwamaggwa, respectively, and one is anticipated at Kibanda. The staff is made up of seven personnel for the county: a Senior Community Development Assistant (Male) a Community Development Assistance (female) and five part-time Community Development workers. During the year 1968 twenty five valley tanks were dug at the rate of one tank in each sub-parish (Omuluka) except in Bugona and Butabago parishes where there were two in each.

There are twenty four women groups in the county. The Community development officers hold classes in handicrafts, child care, cookery and homecraft, in addition to literacy and singing classes twice a week. Periodically, they hold house cleanliness competitions which involve a plastered house with sand or dust, hardened floor; windows and ventilation; a cooking house; a good latrine; pit for waste and rubbish and rakes for drying plates. Clubs which are away from any of the five centres meet either at a place of their choice or at the sub-parish Headquarters, and an officer visits them if she/he is invited.

There are other organizations like the National Union of Youth Organization (NUYO), Mothers' Unions, and Welfare Clubs. They all have a similar curriculum for their activities, such as reading and writing, cleanliness of a homestead, child-care, cookery, agriculture, marriage lessons, needlework, games and singing, and handicrafts. Of course, the day programme may vary from club to club.

Short courses organized at Lwanda, Bikira, Rakai and at Masaka have helped the leaders and members of the organizations to acquire further knowledge which is a great asset in running the clubs.

The one other interesting club is "the neighbourliness" group "MUNNO MY KABI". It is mainly for women in the village, and is a combination of the traditional communal service and the modern welfare club. Members subscribe a shilling to their treasurer. They do not usually have a chairman and a secretary in such a situation,the treasurer seems to do all. They may do exactly what other clubs do, but they are at all times prepared and ready to help any member who is either in difficulty or in material need. For example, if a family is bereaved, group members come to cook and do what may be required in the home for at least a week; if a member's gardens go bushy, members collect and clear the weed; and when the crop is ripe, they will come and harvest it. Men know about these clubs but they do no more about helping them than give their wives membership fee, in addition to allowing them to participate in various activities connected with the club.

The disabled, blind, deaf and dumb were and still are the responsibility of the family. They were encouraged to do as much of what other people did depending upon what they could learn and manage. Provided one was really ill, he worked hard and contributed greatly to the provision of needs in the home. Children who suffered from Polio in most cases developed a diviner's talent and became useful by giving oracles. Very few, if at all, have people under this category or deformity have been brought to the modern centres for rehabilitation.

What should be done is to help relatives, financially, who are caring for those who are utterly incapacitated or too disabled to do any productive work.

Old People

Old people usually were in care of their daughters, sons usually helped in providing for their needs. A married woman invited her mother or father to her home, the husband built a small house for him or her and the grand children moved in to stay with him/her. A son could also send some of his children to stay with their grandparents in order to help them with collecting wood, fetching water, and cooking food. If sons neglected the aged, a member of the lineage could accuse them to the head of the clan, who had the authority of giving them orders as to what to do. A neighbour to the aged could accuse the children of the aged to the local chief, who if they did not heed his instructions or advice, could take them to the Ggombolola chief for neglect of the aged. These measures were consonant with the saying that "What grows old depends upon the young for livelihood" 'OLUKULA KUYONKA ABAANA BAALWO'.

Labour

Most of what is done in the way of labour may be regarded as "Communal activity". Firth's term "Simple and complex combinations of labour" is more relevant to the labour situation in Kooki than the distinction made by both Durkheim and Malinowski between Communal labour and organized labour. Of course, in some activities such as building a house, there is supposed to be a division of labour. In Kooki the ritual part is done by the father or his brother who stands the first pole on the site selected. The rest of the work does not strictly follow the normal sex division of labour, such as, men cutting poles and women collecting grass for thatching. Women may carry or even cut down trees needed for building, and men may help in getting grass if there are not enough women to accomplish the work in time, or if grass were a long distance from the site, and/or that the task was too much for women alone. When the house is completed, the man is responsible for repairs while the women's duty is keeping the house clean by removing the grass cover on the floor periodically, making mats and smearing with cow-dung those parts which are not covered with grass.

However, close observation of various activities done in the country indicate that hunting of big game such as antelopes, bush bark, pigs and the like; making bark-clothing, fishing and smelting ore are done by men. Clay crafts such as making pots and jugs, are done by both male and female. Making mats, baskets which are used for serving food, cultivation and cookery were, and still are, predominantly done by women. Since the introduction of cash crops as cotton, coffee, millet (sorghum) in 1900's and the developing market for food crops such as ground nuts, plantain (matoke) potatoes, etc. men have been attracted to cultivation. The order of things now is that men have bigger, and more extensive cash crop fields. Women grow both cash and food crops on much smaller gardens than men do. The growing of food crops is till the women's major family responsibility.

Cultivation is closely connected with rain making. The ritual authority for rainmaking originates from Kamuswaga, who alone could delegate this right to a priest to hold the service. Of course, some rain makers claim to have inherited this ritual power from their ancestors who might have got the right from Kamuswaga's ancestors or had the power as an indigenous

ritual right descending from the lineage long before the first Omukama "Bwohe" came to Kooki (from Bunyoro). Any rain-maker is socially respected as a servant to god "Mukasa" (God of plenty). The procedure taken in praying for rain differs slightly between the Royal and the Indigenous rain makers.

Royal rain making under the direction of Kamuswaga (Omukama) was done at two places: Kyettaka and Kooki Hill. When the whole country suffered a long period of drought, grass dried, people hardly had food, water became scarce and domestic animals began to die of both hunger and thirst, then people close to the "Omukama" reported the situation to him and asked him to make rain for his subjects. The Omukama (Kamuswaga) sent for the priest of Mukasa - God and instructed him to arrange the service. The priest informed priests of the following Gods "Plague" (Kawumpuli), Muleguza (God concerned with extreme in stomach), and Muggala and Nabuzana (God concerned with midwifery) to come together to conduct the service. The Omukama sent a delegate with a spear to represent him. He was accompanied by many people taking with them a white cock which was thrown into the lake at Kyettaka or left in the bush at Kooki Hill; four pots of beer, eight bundles of cooked coffee, a white goat (intended for the sacrifice) and a bunch of "Nakitembe plantain, which was roasted and some other type of banana for cooking. When they reached the spot, the Omukama's representative handed the spear to God Mukasa's priest, a symbol authorising him/her to conduct the service. The service started at about 4 p.m. and went on until about 8 p.m. when they all returned home. While some men and women participated in the service, some other men and women were busy cooking food, and roasting both meat and Nakitembe banana, all of which must be completely eaten up, and the beer drunk. The priests called upon the Gods, and when they were possessed, the Priest of God Mukasa said "Oh God of Plenty (Mukasa) who gives and takes away, Who has power to draw things nearer from afar, Thy people are dying of thirst and hunger, Give them rain." Then the congregation sang and at times answered in chorus "Listen the God of Plenty". It is said that it almost always rained shortly after the service. Many elderly people told me that it often rained even before the group got back home.

A service taken at Kooki hill differed in some ways from the one at Kyettaka, though both were authorised by the "Omukama", and the Priest of God Mukasa was the chief official at the service. At Kooki the chief priest was a woman. She alone entered the bush, covered herself with a bark cloth until she was possessed. Her attendant brought the following things: one calabash full of beer, four ten cent pieces, four one cent pieces and a spotless white cock. The congregation sat all round the bush quietly, patiently, waiting to hear the instructions. She at times started a song (Hymn) to be joined by other priests and the congregation. She let the cock go, supplied the attendants and priests with coffee, and ordered food and beer to be eaten up. After communal eating and drinking, she instructed the people to return home leaving utensils on the hill until the following day when one of the attendants fetched them. In either case, the coming of rain was assured.

Besides rain making under the instruction of the Omukama, people in a village could ask a priest to conduct a service of prayers for rain to God "Mukasa". The village chief instructed the village tenants to collect food, make beer, and meet on an appointed day sometime between 1 - 4 p.m. The chief offered a white hen (which in all cases is never eaten). On the appointed day, the priest and his attendant brought an oar which is said to belong to God Mukasa. When they met in an open place (it was usually on a hill or by a wall), they began to sing hymns, cooked and roasted food, and

then the priest held the oar and waved it on both his sides (as if driving a canoe). People sang louder and louder calling upon "MUKASA" the God of Plenty, who abides in the lakes. Then at a climax he shouted out "being possessed" saying:

My Children, be calmed
NANZIRI and Lule don't dry
I will surely give you the rain
I will make it come and
You will eat and drink

Then the priest sprinkled medicated water on all the people present saying

Come down rain
Clouds form and quick come rain.

Then the people continued singing worshipping the god of plenty. After all the congregation ate and drank leaving nothing behind (except the white cock which was let free). Then they all left for home late in the evening hoping that it would rain soon.

There were some people in the county who were known to be rain makers. They moved up and down the country attending to people's needs concerning water, say, for example, lack of rain or dried up water holes. Even as recent as the 1930's a man called, Bunywera, from Kibumbiro and Jakira, living at Kimuli, used to serve the country in this way. Rain making may be regarded as a service rendered by an expert to the community, a communal service for public benefit, and an organized institution for public welfare.

Smelting

Smelting ore was a heavy manual labour. A man experienced in selecting the right type of stones (male stones) from the wrong ones (female stones) went about picking up and collecting the right type of the required stones for smelting. Two places are well known: Nsozibbiri for male stones, and Kabukala near Bitabago for female ones. When the expert had collected enough stones, he built them in a heap with twelve tunnels running to the centre; each tunnel was filled with coal and dry wood and manned by a strong person who kept the fire burning by blowing at it. The two sets of men (12 men in each set) met in the evening at the blacksmith's shade, had their meal and set off to the place to start work at about 6 p.m. Each man sat at a bellow and worked at it until midnight when he was replaced by the man who was serving him during his time, the first man becomes a serving man in turn. It was possible for a man to drop breathless due to heat and tiredness. The work took the whole night. The metal produced belonged to them all, except that the head smelter took a bigger piece than each of the rest. Some chiefs had their smelters in service.

The metal was sold to blacksmiths at -/50 cents or at Sh.1/- a piece, or for a number of shells or strings of beads. The blacksmiths made knives hoes, hammers, spears, spikes and needles (used for repairing barkclothes) for mainly the local market. Some spears were exported to Ankole, spears and big knives to Buganda and Kiziba, and a reasonably big quantity of them were given to chiefs in tribute. Kumaswaga, like the Kabaka of Buganda, had his own blacksmiths who made royal utensils which were collected from chiefs

for tribute or as presents and were passed on to the Kamuswaga's (or Kabaka's) friends as gifts.

One smelter commenting on this manual labour said to me that smelting was a very friendly, fully co-operative activity; that quarreling among the group, or slackening on the part of the participant resulted in failure to produce the metal. Women did not have any part to play. Men kept handy all the provision of wood, water and food which they wanted during the night. They too avoided going to bed with women for a day or possibly two days before the work was done.

Almost all blacksmiths in the country have disappeared, especially since the abolition of Kamuswagaship (1967). However, some Kooki made utensils, such as knives, are still available in public markets for sale, though much of home craft products have lost market, being replaced by imported articles.

Agriculture

Agriculture as food producing labour was a major responsibility for the women folk, helped by boys up to the age of about twelve, and girls until they were old enough to marry. At the age of twelve onwards a boy spent most of his time with either his father or men groups participating in fishing, hunting, and learning what was regarded as a man's role in the society. Groups of boys helped in harvesting crops, such as Simsim and groundnuts, and in helping to collect banana from neighbouring homes for brewing beet. When either a boy's voice broke or the girl menstruated for the first time, they were both regarded as mature individuals, and were supposed to observe conditions concerning agricultural productivity for the sustenance of the home.

Marriage and Institution

Dr. J.H. Beattie's definition (Other Culture, p.117) of marriage institution as (a) a union between a man and a woman such that the children born to the woman are the recognized, legitimate off-spring of both partners, and that (b) "it confers acknowledged social status on the offspring" apply well to the Kooki society. The Kooki society acknowledges particular types of marriage systems, and the children born as a result are recognized as legitimate. Marriage was done under one of the following systems.

First: The formal marriage. This was connected with the first wife known both as "Kaddu Lubale" (Servant to the family of God) and "Ssabaddu" (Head in charge of servants). If a boy, sister, relative or parents saw a girl admirable for marriage, and she was acceptable to the family circle (in appearance, shape and form), the parents individually approached the parents of the girl and expressed their intention for a marriage. Then a bigger concern of finding out about both the individual's behaviour, and the type of the family on both sides (boy's and girl's) began. The boy's side wanted to know whether or not the girl was hard working (digs and cooks), that she entertained visitors, could make things like mats, baskets, make the floor covering of grass, make pots and clean the cooking house. The girl's side looked for the boy's ability in participating in male activities such as hunting, fishing, making bark-cloth, smelting and building houses. On both sides (boy's and girl's) each tried to avoid marriage with an individual from a family which practised either wizardry or witchcraft. This applied to all forms of marriage.

If a boy was found to be quarrelsome or had a tendency to fighting at beer parties (usually boys went to drink with their fathers who regulated how much drink (boys) should have) his chances of marrying the girl was almost nil, for fear that he could beat the girl unreasonably. When the reports were satisfactory on both sides, the boy and the girl were allowed to meet at either the girl's father's sister, or at her grand parents home, There they could talk freely without any restrictions at all. After that date, the dialogue between fathers began:

S/F. He asked one or two of his sincere friends to accompany him to the girl's father's homestead. They took one or two calabash(es) of beer with them. On an appointed day they found the girl's father and his relative (could be a brother, the grand father, or a friend) waiting for them. When they saw the visitors reaching the yard, the hosts shouted out -

Host - (including girl's father)

It is a pleasure to see you. The town dweller likes to welcome a visitor carrying something (implying anything edible). Please come in.

When the visitors had settled, beer was put in the centre of the sitting room, then, greetings were exchanged. Then

S/F I have come here to eat greens (Ensugga N'embooge)

D/F That is irony talk, I do not grow greens, I do not have it.

S/F Sir, there is a girl here whom I would like to take that she may grow greens for my son ....

This kind of talk went on until they agreed on having the children marry. Then the bride's wealth was settled. This usually included two calabashes of beer, a bull or goat (depending upon the family) called "KYAWENDA" (belonging to the producer - stomach). It was eaten by all members of the father's lineage available. The custom of giving more beers to other members of the father's lineage was introduced by the Baganda, and the bark-cloth for the girl's mother and shs. 4/- (equal to 2000 shells) "Eloyasa". The son's father took them to the girl's family and gave them to her father "OKUJUGA". If all were accepted, arrangements for the wedding ceremony began.[15]

There were other recognized forms of marriage. However, no wedding was prepared after elopment or enslavement. Rubbing a girl with butter, and lastly, after taking a bark-cloth with some money and placing them at the door of the house where the girl lived (the father's sister's house) then the girl went into marriage "okuwaira". In all these cases bride-wealth was settled when the girl was already living with the boy. Parents did not like their daughters to take marriage in anyone of these ways, it killed the family pride.

Marriage Education

The education scheme for a girl's marriage education consisted of lessons in general behaviour, domestic work, personal cleanliness, and care for man before and after sexual action, "Okubuuka akasenge", inspection of vaginal organs to see whether or not she has been deflowered.

The boy was instructed as to how to care, feed, dress and protect a woman. He was not allowed to go to a drinking party on his own, and to have nothing to do with a girl before he actually married her. The training was mainly done by his father's sister, and the grands, being helped, in rare cases, by father's younger brothers (boy) mother's sisters (girl) or old women in the home.

Marriage Council

Marriage was supposed to be lasting, both the safety and the security of the girl was entrusted in the hands of her husband's father. Any serious complaint that could not be settled by the couple or by the husband's mother made the wife to move to her husband's father's homestead. He organized the hearing (the group included individuals according to the father's choice based upon the type and weight of complaint). The husband's father could not hear in detail the marital affairs between the couple, it was "shame", but he attended to matters concerning behaviour. Either the husband or wife could be fined if any was found wrong.

If a wrong was repeated by the husband she was asked to report to her father or to her elder brother. They took a sterner step in treating the offender. They could stop the girl from returning to her husband and refunded bride-wealth, or demanded a heavier fine from the husband. In case of a wife they could authorize the husband (if the girl was repeatedly in the wrong) to sell her as a slave.

A man or a woman who failed in marriage for any reason found it hard to marry again. Today, though these marriage councils still exist, they are not as effective as before. The churches, political administration, socio-economic changes etc. have affected marriage a great deal.

Conclusion

In general, Kooki is comparatively less adequately provided with all services: very few schools, one dispensary, bad roads and not a single petrol station, one coffee curing ginnery. The community development workers are too few and scattered to be of any effective value. Political changes have hit the inhabitants very hard.

However, the fishing trade is improving, the country is good for agriculture. If something could be done about water supply and more food production in addition to paying attention to other human needs, Kooki would be a wonderful country to live in.

FOOTNOTES

1. On the 18th November, 1896, the "Omukana" King of Kooki namely "Kamuswaga" and Mwanga, the King of Bugunda signed an agreement, supported by Stanley Tomkins, H.M. Acting Sub.Commissioner making Kooki a Country of Bugunda under Traditional Chiefships. This was abolished by the 1967 Constitution.

2. In 1940's, the Government sent a group of people from the department of health and the Veterinary to spray the country and fumigate houses -

except churches. Houses now bear numbers to show which houses were treated at that time. Mosquitos were destroyed and people were relieved of the menace.

3. Some clay, "Male Clay" is bad for making pots and it is a skill to be able to differentiate between "male" and "female" clay.

4. It is said that Kooki county takes her name from the day Bwohle rested on this hill and said "Abakooki twafa". "We Kookians are tired". Near Bukuumi in Bugangazzi is a small hill called Kooki, where Bwohe was living, so he called himself and his followers "Bakooki" remembering the place where they had originally come from.

5. Kajuna is the oldest C.M.S. station in Masaka District. It is near Lake Victoria and some seven miles on the N.E. of Masaka town. Today there is nothing much except a Primary VII Church of Uganda School.

6. Figures for a period of ten years show an increase of immigrants into Kooki annually; though this trend is interrupted by emmigrants to Buddu during long droughts.

7. A nurse responsible for the care of the baby could have been any older brother or sister of the baby, or a small girl brought from the mother's side to come and help the mother in taking care of the baby.

8. This is similar with the Chagga in Tanzania (Raum) but among the other Baganda this blame went to the father's sister in the first place, and to the mother rather lightly.

9. Only the young ate birds, and cooked them outside. When a boy grew old enough to marry he stopped catching and eating birds including chickens.

10. This custom was copied from Buganda, the Baganda used to have a Thanks Giving Ceremony to the Gods of the family at that occasion.

11. The first and preliminary stage is "OKUSAAKA" when the bark is still narrow, and needs only one hammer with big teeth to hit it.

12. The Masaka District (seven counties) school enrolment for 1969 was 21152 boys and 18654 girls.

13. Up to 1960's Kako and Kitovu and Bwara were the centres of high education in Masaka District.

14. In general women avoided eating things which looked ugly in fear that the baby would be ugly too, or look sternly at another man lest the baby resembled him.

15. This ceremony took long and many details to accomplish. It is enough for another paper. It is interesting to note much change has taken place in this institution especially in the aspect of procedure in marriage rituals.

EDUCATION AND CULTURAL CHANGE AMONG THE MALAYS 1900 - 1940

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Summary

Reference: Vol.3 (1970 - 71) B10 (p17)

The study examines the educational factors that contributed to the development of a communal identity among the Malay population of several linguistic and cultural groups in the plural society of West Malaya during the period of British Colonial rule.

Archival material from the British Colonial Office and the Malaya National Archives, together with a study of the Malay vernacular press, a series of interviews, and a case study of one district in Selangor provided the data for the study conducted in the period 1967-68.

The study shows the influences of the Malay vernacular schools over the village schools and the religious schools in establishing in the 1930's the Malay language as the focal point of communal identity.

The report emphasises the fact that while the homogenising of the Malay dialects into one language was stimulated by colonial administrative pressures in the interest of effective control, it was the Malays themselves who, consciously and explicitly, shaped the language by which they have defined their identity.

Report

This research project was financed by a grant from the United States Department of Health, Education and Welfare, Bureau of Research of the Education Department, in 1967-68. Research was carried out in Britain in the library of the Colonial Office, and the colonial records of the Public Record Office, and in Malaya in the National Archives and through interviewing and a case study of the mukim (sub-district) of Ulu Langat. A full report on the research is the subject of a doctoral thesis submitted to the Department of History, through the programme committee for Comparative Tropical History, of the University of Wisconsin at Madison, and accepted in June 1970. It is available in reproduction from University Microfilms, Ann Arbor, Michigan (Ref: 70-19, 167). An interim report to the U.S. Office of Education, which deals more specifically with research techniques and procedures was submitted in December, 1969, and is available from

E.R.I.C. (Educational Research Information Centre), Educational Document Reproduction Services No. ED-026-401.

Following the establishment of British protectorates in western Malaya, in the states of Perak, Selangor and Negri Sembilan, which, together with Pahang, became the Federated Malay States, there was a rapid increase in population, both among immigrant groups of non-Malays (e.g.Chinese and Indians), and among the Malays themselves. This growth in the Malay population, which was marked especially in areas which had been troubled by periods of civil war and disturbance, was only in part due to natural increase, for a considerable proportion was made up of immigrants from various parts of the peninsula, from Sumatra, and from the rest of the Indonesian archipelago. Malay was a term conveniently used by the administration, but until the 1930's they would be more likely to distinguish themselves separately, as Minangkabaus, Madnailings, and so on. Although essentially 'malaysian', in many cases their differing dialects were not mutually intelligible, and they had significant differences in customs and traditions.

The object of the research was to examine the role of education, both directly through the schools themselves and indirectly through the influence of the educated, in assisting the development of a peninsula Malay sense of community to replace earlier and original identifications. The study was concerned primarily with the Malay population and made only passing reference to the other communities in the emerging plural society of Malaya. The influence of these other communities was a negative one, excluding Malays from particular functions and operations, and thus contributing to the limiting definition of the Malay as rural peasant, even though in theory Malays were the legitimate native population of the peninsula. In fact it is possible to suggest a distinction between two Malays; one was the politically dominant colonial entity, a network of centres superimposed on the peninsula, with tendrils reaching out into the growing pockets of economic development, whose resources were marshalled by western enterprise, and garnered by a predominantly Chinese and Indian labour force; the other, an underlying, 'sub-colonial' Malay peasant society, was a predominantly subsistence economy, but, through the agreements entered into by its rulers, it provided the theoretical legitimacy for the colonial enterprise.

The administration accepted responsibility for the basic education of the 'native peoples', the Malays, but the government Malay school system was only one element in the educational patterns of the colonial period. There were also government and mission English medium secondary schools, privately run Chinese medium schools, and some rudimentary Indian medium schools run by employers of Indian labour. For the Malays,however, apart from some special provisions for access for a few to English medium secondary schools, the basic year elementary system was the extent of official educational opportunity. For some this could be extended by teacher training programmes designed to channel them into teaching in the rural primary schools. The study examines the nature and impact of the Malay vernacular schools in some detail, and also discusses examples of other, non-official, Malay schools, sekolah raayat or popular schools set up independently by villages, and sekolah arab or arabic schools, which in most cases were modernised versions of the traditional koran schools. Sekolah Raayat were ephemeral institutions generally, for in most cases they were used in order to pressure the government into opening official schools, and if this object failed the school itself was liable to fail within

a few years. Sekolah Arab were opened by private individuals nominally as religious schools subject to approval by the State Departments of Religious Affairs under the authority of the various Sultans.

In order to make a more specific assessment of the role of education in the development of a Malay community the research project developed two interconnected topics for study. In the first place a case study was made of the introduction of schools in one particular mukim, and of the settlement and development of the mukim itself. Together with this a number of interviews were held with Malay informants, in particular retired school teachers who had been active during the colonial period. These interviews were supplemented by selective study of the Malay vernacular press of the period, in particular journals such as Majalla Guru, the official journal of the Malay teaching profession.

The mukim selected for study was Ulu Langat, a predominantly Malay district in Selangor. Of the six principal kampongs (villages) in this mukim only four had schools during the colonial period, while a fifth had one of the more successful Sekolah Raayat, a school which was never adopted by the government, but which the villagers managed to keep open by themselves. There was also a fairly successful Sekolah Arab which operated under the leadership of one individual in two centres. The report discusses these non-official schools as examples of Malay response to two kinds of deficiency in the official colonial system, deficiency in provision of educational facilities, and deficiency in the kind of education given, which was practical but devoid of cultural values as they had been taught in the old Koranic schools.

Ulu Langat also provided a very clear example of intra-Malay communal differences, since, although by 1940 the pattern was becoming blurred, each village was originally established by a distinct immigrant group, each group conscious of differences from the next village. Indeed,this kind of settlement pattern was the official policy of the district heads (for most of this period of Mandailing extraction themselves) deliberately followed for the purposes of administrative convenience. In the case of both the Sekolah Raayat and the Sekolah Arab the influence of communal differences is illustrated. The villagers who maintained their own school were Korinchi, and, in the words of the district head,were 'troublesome people', for which reason they had been required to settle at the remote end of the district; in turn they regarded the head as unsympathetic, primarily because he did not understand and therefore mistrusted them. The owner of the Sekolah Arab came from a family which derived from Rawa in Sumatra, and also had trouble with the district head, partly because of his considerable personal popularity and influence. At one time there seems to have been an attempt to make him out to be politically subversive; certainly his progressive religious views were in conflict with the more prevalent conversation of the official mukim leadership.

The study of the Malay vernacular press was particularly rewarding, and for this Majallah Guru proved to be a valuable sounding board for Malay opinion generally, for its purpose was to act as a clearing house for any news, discussion or comment that its editors felt to be of special interest to Malays. It was possible to discern four main periods of editorial concern which can be summarised as follows: 1942 to 1930, concerned with the general uplift of the peninsula peoples of the peninsula, with practical advice and exhortation; 1930 to 1933, alert to the problems which Malays faced in competition with other peoples in the peninsula, in particular the Chinese, and drawing

strength from the broad-based pan-Malaysian and Muslim world of the peninsula and the archipelago; 1933 to 1937, defining the 'peninsula Malay' community as a community with particular and peculiar problems, and especially defining the role and responsibility of the educated Malay and the teaching profession. The importance laid upon the definition of identity as a preliminary to the constructive solution of problems is of special interest.

In this process the Malay language itself was of primary importance, for it came to rival, then supplant, religion as the ultimate mark of communal identity. The British had early chosen the Johore-Rhiau dialect as the model for official use. Besides the language, the script too had been standardised, first by establishing an acceptable orthography for Jawi, Arabic script as modified for Malay; then, by the introduction of Rumi, permitting the ready adoption of neologisms derived from English in place of periphrasis drawing on arabic to cope with new terminologies. In a sense one could argue that during this period the Malays learnt to speak Malay; and it is important to stress that while in a sense this homogenising of the languages and dialects into one was stimulated by colonial administrative pressures in the interests of more effective control, the language itself was shaped and adapted by Malays themselves. Particularly in the 1930's this process was very conscious and explicit, and the ensuing debate can be followed in the pages of journals such Majallah Guru .

This attempt to summarise the study of the role of education in the development of a Malay community in peninsula between 1900 and 1940 has of necessity left out the detailed supporting arguments and illustrations, which must be sought in the original study itself. It is also difficult in a précis version to show adequately how the various parts of the study complement each other. The attempt here therefore has been merely to sketch the kind of material used, and the principal topics discussed. In terms of research procedure no questionnaire, standardised survey, or other such instrument was used, since it was felt that these could only be derived from a previously constructed model which might itself be faulty and thus jeopardise the enquiry. Indeed, many of the original assumptions, used as points of entry into the enquiry, had to be modified in the course of the series of individual interviews which provided the main focus of the study. Based on these interviews, much of the resultant report is biographical and anecdotal, material which does not lend itself to simplified summary.

As it stands, the research report contained in the full version of the thesis is a contribution to a fuller understanding of Malay social history, with particular reference to the role of education. Admittedly in this area there is still a great deal more to be done. It also contributes to an understanding of the processes of societies in a period of rapid cultural adaptations, and, though in this case the discussion is of a specific society under colonial rule, the concluding chapter discusses its relationship to other examples, notably Indonesia and Ceylon; and in subsequent work the author has tried to apply his findings more generally to discussion of theories of culture contact and culture change.

A COMPARATIVE STUDY OF EDUCATIONAL DEVELOPMENT IN THAILAND, MALAYA AND SINGAPORE

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Summary

Reference: Vol. 3 (1970-71) B9 (p.16, 17)

The study establishes that Malaysia and Singapore have been strongly shaped by British influence, while Thailand has been little influenced by the west; yet all three have the common problem of large undeveloped rural areas, unemployment in the cities exploited by the communists and racial tensions.

All three countries see education as a means of developing nationalism and have committed themselves to free primary education, but only Malaysia and Singapore can afford to maintain and expand it.

Though at different stages of development all three countries have similar problems directly inherited from the west and education systems modelled on western lines, though Thailand is more closely linked with the traditional approach.

None has developed a system of education with local roots.

Report

Several visits to South East Asia, a spell as a British Council education officer in Thailand concerned with both teaching and administration, and a growing awareness that South East Asia was fast becoming one of the most challenging areas of the Third World led initially to a general interest in the region and later to a more specific interest in the role education has played and is playing in the national development of certain countries - most notably Thailand, Malaya and Singapore. My reasons for selecting these countries for study are partly emotional and partly academic. Emotionally I have a personal interest in and acquaintance with them; academically they seem to represent a microcosm of so many of the problems of the developing countries and their problems. They have ancient traditions, cultures and religions mitigating against change and progress along secular lines. They are multi-racial (Thailand the least so) and in the case of Malaya and Singapore, multi-lingual. They are bedevilled by the growing wealth and development of urban areas at the expense of rural areas. Certain rural areas are particularly underdeveloped because the communications network and investments have been concentrated on the ports and cities. They suffer from a population growth averaging over 3% per annum and subsequently

have a large percentage of school age. They are bound up with conflicting ideologies of westernization, democracy, communism. At the same time they are desirous of modernization and economic development and of creating a sense of national unity. The education system is one of the major weapons used to foster such developments.

The approach of my thesis is partly historical, partly comparative education and partly a discussion of the problems of development, espeically in the context of South East Asia. Throughout is an attempt to assess the contribution, both negative and positive, of the Western impact on the region. By choosing one country that was never colonised (Thailand) and a neighbouring country that was very much a part of the British Empire and is today a member of the Commonwealth (now divided into Malaysia and Singapore) I hoped to be able to examine the assertion that the Europeans exploited the region and created few lasting benefits - except perhaps that of economic progress. By pursuing a historical and comparative approach it seemed inevitable that some of my thinking should have been influenced by Kandel and his views on nationalism and by Hans and Mallinson and their views on national character. However,quite by accident though also logically, I devised a particular approach and diagrammatic schema very reminiscent of Bereday and Holmes.

The first main section is concerned with the problems of underdeveloped and developing societies, especially the specific educational problems of South East Asia. The second section analyses the geographical, social and religious factors that have shaped the growth of Thailand, Malaysia and Singapore; the historical and political developments; and the present economic situation. Section 3 discusses the impact of the West on South East Asia - the motives for expansion and the social, political and economic changes that have resulted. Section 4 analyses the growth of the education systems of the three countries, shows how they have been modified,and,in discussing the present systems,tries to bring out some of the problems. Section 5 discusses the likenesses and differences between the three countries, brings together some of the common problems facing them,and on a comparative basis shows how the respective governments are tackling them. The final section summarises my findings.

My argument is that although the West brought benefits to South East Asia (political stability, law and order - on Western lines, the basis of economic growth, improved health facilities etc.,) it not only failed to develop the human resources but created far reaching problems (e.g. plural societies, urbanization, uneven economic development, language problems, the breakdown of existing religious and social structures) without providing adequate means to tackle them. By destroying the traditional pattern of education with its close links with the local community and by importing an alien formal school system the West has further increased these problems because in the modern world countries are trying to use this education system as a weapon to bring about national development. This applies especially to the three countries in question, yet it is precisely because the education system, as at present being used, is alien that it is in danger of increasing further rather than solving the problems. It does not have its roots in the community and it is irrelevant to thousands of children. The growth of education is, I believe, following a wrong path and there needs to be a fundamental reassessment of its role and purpose in modern society. Unesco, political leaders brought up in the Western tradition, and aid agencies are all guilty of perpetuating these problems because they see them in Western terms and they see solutions in Western terms. Changes

and innovations - and there are plenty of them: comprehensive schools in Thailand and Malaysia, curricular innovations, modern science techniques, planning - fail to be fundamental enough since they are largely an extension of Western schooling. Modernization does not necessarily mean Westernization, as has been proved by Japan, but it does mean a change in attitudes. These attitudes are not necessarily beneficial if competition replaces cooperation, selfishness replaces community help, academic work destroys respect for manual work, secularisation swamps any religious or moral approach to life. But this seems to be precisely what the formal school system aims at doing. In times past traditional schools - the Buddhist monastic schools, the Koranic schools, the Chinese writing schools - for all their faults were closely linked with the community and the kind of work that would be done in the future. They aimed at training the whole man for life, and at preparing him for work in the community. Only by trying to blend this kind of approach with modern methods, by linking the school and community more closely together so that children actually learn things with their parents or do a variety of jobs as part of the school curriculum, by cutting out much of the irrelevant and unnecessary and by fostering both ambition and community spirit can these countries hope to progress economically without at the same time worsening the standards of life and making the same mistakes as the West.

Of the three countries Thailand, until recently has been the least influenced by the West. Its geographic position, together with the astute leadership of the Chakri kings of the nineteenth century helped preserve its independence so that it became a buffer state between the British in Burma and Malaya and the French in Indo-China rather than a colony. It did however lose some of its territory east of the Mekong to the French and in the south to the British. European advisers were brought in to help modernise the economy, especially the export of timber and rice, Royal princes and all the monarchs since 1910 have received part of their education abroad. The result has been that Western influence has been subtly absorbed and modified but not imposed. The 1932 coup d'etat which replaced autocratic rule with a constitutional monarchy was inspired by men educated in the West. During World War II Thailand sided with Japan, thereby avoiding excessive war damage, but since the war it has been firmly in the anti-communist camp and has been strongly influenced by US military and financial aid. Its education system,traditionally based on the Buddhist monasteries as far back as the Thirteenth century was modified in the nineteenth century by king Chulalongkorn under the influence of missionaries but it was not destroyed. Even today 50% of the country's primary schools are situated in monasteries. There have been Western importations in the shape of élite schools and in recent years moves have been made towards developing a more comprehensive system along American and Canadian lines.

Malaysia and Singapore have been very strongly shaped by British influence. Their great economic developments especially of the tin and rubber industries and the development of Singapore as the greatest entrepot port in South East Asia are a result of British investments. Yet there are other aspects. The rapid population growth came about as much from uncontrolled immigration of Chinese and Indians as from a rise in the birthrate of Malays. The education system introduced by the British completely destroyed the existing Koranic schools. Malay vernacular (primary only) and English medium schools were provided by the government or missionaries. The Chinese and Indians had to fend for themselves - until the 1920s when grants were first made to them. The result has been a complex system of different language streams, with those educated in English

and Chinese benefitting most. Not until after World War II were the Malays given a fair chance. Unfortunately, therefore, in spite of economic advances racial barriers have been increased by a divisive education system,and while the rural Malays in their kampongs have benefitted only marginally from these advances the immigrant communities have benefitted considerably.

What common problems are there? There are developed and underdeveloped areas in all three countries, especially the north east and northern hill areas of Thailand and the east coast region of Malaya. They are the most difficult areas to help because of their distance from the central administration. Being the least developed areas it is difficult to persuade teachers and doctors to serve there, though both governments of Malaysia and Thailand have schemes for "sending" teachers and doctors to these areas. These regions would have been the most backward,anyway, either because of climate or other geographical features. Their position was made worse by the development of cities and communications networks that focussed on them or on ports to suit European patterns of trade.

With the exception of Bangkok the South East Asian city is a European phenomenon and the development of Kuala Lumpur, Singapore and in recent times, Bangkok, can be attributed to European influence because they were either the seats of government or ports providing outlets for raw materials. Today problems of urbanization are common throughout the Third World. In these three countries they pose specific difficulties. Not only have they and do they develop at the expense of the rest of the country but they use up an unfair proportion of the national resources. It is in the cities that the greatest racial tensions build up because Chinese and Indians tend to be the predominant urban dwellers and at the same time successful businessmen, both factors that have annoyed the Thais and the Malays. Facilities and opportunities in the cities are undoubtedly better than in the rural areas, and they act as a magnet to those seeking better opportunities. But many have neither the training nor the aptitude for city life with the result that unemployment follows. Unemployment, especially in Singapore, has been a major problem which has been all too readily exploited by the Communists. Since the end of the Emergency in Malaya there have been underlying fears of the communists in the region. Nanyang university was riddled with them for a time and clashes between police and guerillas are all too common on the Thail/Malay border. Lip service is frequently paid to using the education system more positively to provide for manpower needs and thus avoiding unemployment and to use it to fight communist propaganda. Attempts at the latter will be worthless unless job opportunities are available. So far only Singapore has begun to tackle the problem seriously, with its emphasis on technical education, though the Malaysian comprehensive school is a step in the right direction.

Compared with India, Pakistan and Indonesia the population growth has not yet got out of hand but it does have definite educational implications. Singapore's Second Development Plan is based on the assumption of 46-50% of the population being under 14,Malaya's planning is on the basis of 44%, and Thailand's on 43% being under 14. All three countries were signatories of the Unesco projections that have come to be known as the Karachi Plan, providing 7 years of free primary education by 1980. This has already been achieved in Malaysia and Singapore. In Thailand the majority of children still have only four years of schooling. At this stage only Malaysia and Singapore can afford to expand primary education and only Singapore has a sound population policy. Thailand believes it is underpopulated and the Malaysian government is afraid of imposing restrictions in case the Chinese

outnumber the Malays. No country sees primary education as complete in itself: it is a preparation for secondary education, but if secondary education is not readily available it is misdirected.

In recent years population growth has highlighted other problems most notably malnutrition, disease, ignorance - problems common to all developing countries. These have been increasingly reflected in the educational problems of wastage and dropouts: several reports into wastage carried out in the 1960s revealed strong social and health problems as among the main causes. Educational development must therefore go hand in hand with social improvements, though all too frequently the latter conflict with the inertia of Buddhism or Islam. However, wastage and dropouts are apparently as strongly influenced by educational factors as by social ones. Lack of interest stems from irrelevant courses, lack of materials, overcrowding, bad teaching, repetition, but chiefly from the school being unrelated to the needs or hopes of the local community. Attitudes to wastage vary among the three countries. Malaysia has tackled it by providing automatic promotion through primary school into the third year of secondary school. Singapore makes provision for the retention of 10%. Thailand is trying automatic promotion on an experimental basis in a few schools. None have really tried to relate the school to the community in a meaningful way.

All three countries see their education system as a means of developing nationalism. Since independence (1957) Malaya has been trying to weld together the different races into a single Malaysian nation. Singapore has been doing much the same, though the urgency has only been there since her expulsion from Malaysia in 1965. Thailand has not had the same problem but the schools are used to enforce Chinese assimilation. Similar methods are used. The curriculum, syllabus and textbooks are nationally orientated in all three countries and examinations reinforce their content. Only in language policy is there a real difference. In Thailand, Thai is the sole medium of instruction. In Malaysia four languages are permitted at primary level - English, Malay, Chinese and Tamil - but only the national language, Malay, is permitted at secondary level and more recently at university level. In Singapore all four languages are permitted throughout the school system. Only at university level is there a specialisation in either English or Chinese. Recent developments include the comprehensive secondary school in Malaya with its multi-racial and common curriculum bias, and the integrated schools in Singapore which bring different language streams under one roof.

All three countries are at different stages of development. They are confronted with similar problems, many directly inherited from the West. All have education systems modelled on western lines, though the Thai one is still most closely linked with the traditional approach. All are beginning to question the purpose of education and have prepared educational plans trying to relate education to the manpower needs of their countries. So far, however, educational development has consisted merely of expanding and modifying the existing pattern. It has not involved an attempt to link school and society more closely so that it does have local roots.

WESTERN TYPE EDUCATION AND THE DEVELOPMENT OF AFRICA

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(a Ph D Thesis London 1971)

Summary

Reference: Vol. 31 (1970-71) A9 (p.7)

Development is defined as man's continuous attempts to create a congenial environment for his survival; African development is a process whereby Africans discuss and define their needs, and plan and work together to satisfy them. The function of education is to make people understand this and channel their efforts thereby.

The two systems of education operating in Africa are compared: indigenous and western type.

Western type education introduced by colonialism and missionaries imposed western values on the African. It has had the effect of estranging him from himself and other Africans, and disarming him for the tasks necessary for real development.

The report describes a vicious circle in which Africans perpetuate their own under-development, and points out the need for a dynamic educational system serving national interests, African identity and development.

Report

Western-Type Education and the Development of Africa

In modern categorisation, Africa, apart from South Africa, is labelled "developing", "underdeveloped", "backward", etc. European and African countries have been spending men and money to develop Africa. Yet, Africa has remained underdeveloped. The purpose of the study[1] upon which this article is based was to account for the prennial backwardness of Africa. Today, there is so much talk about development that one needs to be certain of the type of development referred to here.

As it concerns human society, development is man's continuous attempt to create a congenial environment for his survival. It involves the utilization, to the fullest extent, of all the material and human resources of any society with the result that there is steady and significant improvement

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1. This article is based on "Educational Values and African Development", a Ph.D. thesis (London, 1971) by Uga Onwuka.

in the standards of living of the members of the community. The purpose of development is the betterment of man. African development, then, is a process whereby Africans discuss and define their needs and, depending upon their ability and potentialities, plan and work together to satisfy them. This kind of development has no boundaries separating economic from social or political development. They are all component parts of man's struggle for survival.

Social, economic and political development is intimately connected with education which is the acquisition and utilization of knowledge for a complete living. It is a process by which the community[1] seeks to open its life to all the individuals within it and enable them to play their part in it. Real education encourages the spirit of adventure and man's natural curiosity which enables him to exploit his abilities to the full. As development hardly takes place where there is a multiplicity of subnational loyalties and where people do not understand their purpose in life, it is the place of education to make people understand it and to channel their efforts towards it.

Real education nurtures and promotes citizenship, the spirit of common belonging and common destiny. It produces the manpower which is the primary factor of development. Such an education cannot be cheap. Yet, unless a community is developed, it cannot afford to provide the type of education that in turn generates real development.[2] The inter-relationship of education and development helps us to draw two conclusions from the statement that "colonialism put a break on development"[3] in colonial territories of which Africa is part. First, there had been some development in Africa before the arrival of Europeans there. Secondly, that development was the product of some form of education. This demolishes the notion often entertained by some people that it was Europeans who brought education to Africa. Indeed, Africans had their own indigenous educational system before the introduction of western-type education.

Indigenous African societies had both formal and informal ways of imparting knowledge and skills to their young and succeeding generations. It was a natural form of education which took place in real and concrete situations. Its content was relevant to life. In many respects it had parallels with western-type education. But it had its shortcomings. The absence of literacy meant that no branch of learning could be pursued in great details. The multiplicity of localized languages rendered many ideas immutable. Nevertheless, Africans prepared their succeeding generations to take their place and play well their part in the community. In the field of human qualities, which are vital for development, indigenous African education scored a considerable measure of success. Even then, its methods of inculcating manliness were brutal.[4] But considerations of the survival of each community as a whole

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1. "The modern nation is not a community if the people lack any enduring singleness of purpose, or if they lack the necessary spirit and power to integrate their endeavours for a common weal". [See F. Watts, Education for Self-Realization and Social Service, (London, 1920), p.5.

2. See Uga Onwuka, "Educational Values and African Development", unpublished Ph.D. (London, 1971) thesis, p.151.

3. A. Curle, Educational Strategy for Developing Societies, (London, 1963), p.46.

4. Uga Onwuka, op.cit., p.199.

justified every measure adopted to eliminate what, by their norm, was unacceptable. Indigenous political units were too small to be able to secure the type of development that modern societies desire and to resist the intrusion of the western type. Technologically, too, it was very limited. Hence,when Europeans arrived they found nothing that they could refer to as education in existence in Africa. They introduced their type of education comprising primary, secondary and a variety of higher education.

In spite of this, the nature of western-type education in African has not, so far, sufficiently equipped the African to tackle and solve his problems. Africa, even those parts that have had western-type education for well over a century, still heavily rely on Europe and America for their educational programmes and general development. The explanation often given by many a critic is that the education was too religious, too bookish, too literacy and principally concerned with the acquisition of undigested facts for examination purposes.[1] Admittedly, the content of the education was unrelated to the Africans' needs and experiences. It did not encourage initiative, original thinking, experimentation and creativity. In general, it conditioned its recipients to accept thoughts thought out for them. To question certain statements was a sign of insubordination.

These criticisms were not peculiar to western-type education in Africa. Education in Britian, for instance, once came under similar heavy fire. But developments in other directions as well as the effective activities of reformers who understood what they were doing for their country and people changed the situation in Britain.

Those who introduced western-type education in Africa taught what they were used to. The knowledge of western ways and ideas they taught brought Africans and Africa into the stream of world affairs. Examinations are necessary in every aspect of life; but the nature and function of examinations may make a lot of difference in people's outlook. Western-type education in Africa was not really literacy. It would have been in Africa's interest if it were so, for literary studies provide a means of inculcating humanism, an aspect of learning and dealing with the world of people and human interests in general.[2] That much of the educational work in Africa is in the hands of Christian missions does not ipso facto qualify it as religious. In fact, a good deal of what goes on even in Christian institutions is irreligious.

Furthermore, it is incorrect to assert that education in Africa had no provision for industrial, technical or scientific training or studies. Many missionary institutions included practical and industrial training in their educational programme. Science subjects were found even in primary schools. But lack of funds, equipment and capable teachers necessitated the adoption of teaching methods which rendered science and technical subjects as "literary" as subjects definitely known as such. The fault, therefore, lies not so much in the content but in the methods of teaching, the organisation and in the expectations of both the recipients and the propagators. Additionally,

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1. See Uga Onwuka, "Educational Values and African Development", unpublished Ph.D. (London, 1971) thesis, p.308.

2. Ibid., p.275. See also A.V. Murray, The School In the Bush, (London, 1929), p.195.

most of the early propagators of western-type education in Africa were not professionally trained educators. They had narrow and limited views of the meaning and purpose of education.

British educational policy in the colonies was intimately related to the central purpose of her colonial interests. These interests varied from when, in order to clear her conscience for her part in the inhuman traffic, Britain was mainly concerned with the abolition of the slave trade, repatriating and resettling of the ex-slaves to when the British Government assumed the role of trustees and protectors of their colonial possessions. The implications of this role were not clear to all those on the developmental stage. However, Britain pledged herself to guide colonial peoples along the path to self-government within the framework of the British Empire or Commonwealth. She also undertook to build up their social and economic institutions and to develop their natural resources.[1] These demanded the education of the people in order to rouse their interests in matters affecting their general development. It was hoped that the education provided would enable Africans to choose and develop those of their indigenous institutions and practices worth preserving instead of blindly imitating Europeans. Hence,it was stated that British educational policy in Africa should be adapted to the mentality, aptitude or aspirations of the various peoples.[2] These were the officially stated aims of the British Government. All the European groups in Africa did not wholeheartedly accept them; hence,they did not co-operate in working toward achieving them.

Western-type education in Africa was introduced by Christian missionaries whose primary aim was proselytization. To them Africa was in danger of eternal damnation. Therefore, they desired to save the soul of Africa. It was essential that Africans should be able to read the Bible. Hence,they taught reading. European nations were interested in economic expansion. They needed sources of raw materials for their growing industries as well as markets for their manufactured goods. Representatives of commercial interests and missionaries needed the protection of their home governments who necessarily had local representatives. These required African assistants in their colonial administration. The education provided had to include the 3 R's. Generally, Europeans sought to "civilize" Africa. The meaning attached to "civilization" varied according as the interest-groups saw it. Some who identified Christianity with western civilization saw their educational aim as that of fitting the African to be "a more useful person to the European"[3]. Education should make the African more desirous of European products and services. To others the educational aim was to enable the African to improve his standards of living and to develop his "personality on all sides and to the fullest extent to which it is capable"[4]. Some Europeans wanted Africans to remain mere labourers on their land and in their mines.

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1. Parliamentary Debates, House of Commons, Speech by the Secretary of State for the Colonies, Colonel Rt. Hon. Oliver Frederick George Stanley, 13th July, 1943, col. 48.

2. Cmd. 2374, Education Policy in British Tropical Africa, H.M.S.O., (London, 1925, reprint 1939), p.4.

3. E.W. Smith, The Golden Stool, (London, 1930), p.294.

4. Ibid., p.295.

These were opposed to any form of education that would actually enable Africans to be masters of their own affairs in their land. But how did Africans themselves embrace western-type education?

Initially this new type of education was unpopular in Africa. For a long time it did not spread beyond the inhabitants of coastal areas and the communities of emancipated African slaves. In its early days some parents demanded payment for letting their children go to school.[1] In time, however, the initial apathy and suspicion that greeted the introduction of western-type education were dispelled by a number of attractions. It became a passport to employment in the modern sector. This offered material benefits not only to the individual recipients but also to their parents, families and dependants. Thus, the new type of education came to be seen as a direct investment. It provided a means of escape from the toilsome uneconomic subsistence agriculture and also a means of enhancing personal and group status. For a variety of reasons individuals, parents and local communities came to realize the importance of western-type education. On gaining independence African countries readily accepted all forms of western-type education as an indispensable factor of their expected development.

Again, these expectations are not peculiar to Africa. Individuals in other parts of the world are interested in securing employment in order to earn money. Likewise, the possibilities of getting into comfortable and well-paid positions induce many young people to pursue a variety of higher education. Parents interested in their children's future desire for them such education that would make substantial difference to their future.[2] All the advanced countries of the world had long realized that a high level of national productivity can only be sustained by brains and skill.[3] To this end their institutions of learning have national responsibilities to fulfil. For instance, they aim at raising healthy and worthy citizens. Nevertheless, attractions of education vary from time to time, place to place and group to group. While the attractions of education to Africans are common in other parts of the world the fact remains that education in Africa has not done what it did in those parts of the world that introduced it to Africa. Unquestionably, Africa still remains underdeveloped. To account for this continued underdevelopment, one must consider some peculiar attitudes to, and practices of, western-type education in Africa.

The nature of western-type education in Africa has been such that estranged Africans from their environment. The new education did not foster self-respect and self-confidence. Unintentionally, the new type of education

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1. See R. Laws, "The Co-ordination of Technical and Literary Training in the Education of Natives", Report of the Native Education Conference, Nyasaland Protectorate, (Government Printer, Zombe, 1927), p.20. See also J.F.A. Ajayi, "The Development of Secondary Grammar School Education in Nigeria", Journal of the Historical Society of Nigeria, Vol.2, No.4, December, 1963, p.521.

2. J.E. Floud, ed., Social Class and Educational Opportunity, (London, 1965), p.76.

3. A.H. Halsey, J. Floud, and C.A. Anderson, Education, Economy and Society, (New York, 1961), p.24.

encouraged autophobia.[1] It made Africans turn their backs, as it were, to things African: their own culture, their indigenous system of education and their own people. It encouraged slavish imitation, ostentation and excessive reliance on others. What went on in the name of education was not related to the needs, problems and experiences of the people. The system did not nurture true citizenship. It produced a situation in which people lay more emphasis on material gains than on service. Generally, it has not sufficiently roused Africans to become interested in matters affecting their development.

At this stage it is possible to state two primary obstacles to real development in Africa. One is the absence of any unity of purpose amongst those involved in the task. The majority of the early educationalists in Africa had no definite conception of the meaning and function of education. The European groups, missionaries, administrators and commercial representatives of European investors often had conflicting objectives. Where their interests coincided, they were opposed to those of Africans who, on their part, had varying personal and sectional interests. Indeed, "most Europeans are interested in the African, not for his sake but for their own ..."[2]

The other is that the developmental stage is a scene of contradictions. Rather than emphasizing common bonds uniting different African peoples grouped into any one colonial possession, the educational system emphasized their differences. Thus, in place of unity and co-operation, one finds disharmony and mutual conflict. Official statements indicate that the education provided should enable Africans to stand on their feet and manage their own affairs. Yet, very few officials seriously entertained the possibility of Africans relying upon their own resources to satisfy their needs and solve their problems in their own ways. There are suggestions that Africans should, in the light of their experiences through exposure to the practices in other parts of the world, devise their educational system. The system produces people who dismiss such an idea as a means of fobbing Africans off with something inferior and denying them the opportunity of "rubbing shoulders" with the outside world. In public African politicians talk of "Africanisation". In private and in practice they express their preference for external services giving rise to a phenomenon termed "intellectual centrifugalism".[3] Africa yearns for educated people to serve and save Africa; yet the system turns out thousands of literate but uneducated people.

Real development demands occasional stock-taking by which people appraise the part they play. There is abundant evidence of self-criticism on the part of Europeans. This essential aspect of development is lacking on the part of the Africans. Asked who is responsible for the continued backwardness of Africa, the African readily blames it on the colonial masters. Undoubtedly, the colonial masters have their share of the blame. Although it

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1. Autophobia is a psychological complex of self-dislike or self-hatred. The African examplifies this by slavish eulogy and admiration of foreign people and their ways, and the disparagement of people of his kind and his indigenous ways of life.

2. D. Westermann, The African Today and Tomorrow, (London, 1949), p.3.

3. Intellectual centrifugalism, like brain drain, results in loss of manpower. It is a situation in which the attitudes of privileged people force educated and a variety of qualified indigenous persons out.

has been stated that "Africa will be what Europe and America make of it",[1] they have overtly indicated that the African's salvation rests with him. The part Europeans have played, and still continue to play, serve as an object lesson that man, ultimately, is responsible for his own survival. Africa is abundantly rich in material and men capable of being utilized in creating a congenial environment for his happiness. By their unwillingness and unpreparedness to undertake the task necessary for real development Africans perpetuate their underdevelopment. They often do not know that education and development are not importable commodities. However, the African is not naturally indolent. He merely appears to be so when he does not identify himself with what he does and what goes on around him.

The African needs a dynamic educational system that will foster self-realization, self-confidence and promote co-operation and productivity. It should be a system in which all educational institutions positively serve national interests and thus offer the African the identity that he now lacks. Rational regrouping will serve to make the African aware of the purpose of his existence and struggles. Without this awareness there can be no real development in Africa.

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1. D. Westermann, The African Today and Tomorrow, (London, 1949), p.1.

THE ANALYSIS OF EDUCATION SYSTEMS OF DEVELOPING COUNTRIES

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Summary

Reference: Vol.3 (1970-71) A1 (p1)

The study demonstrates the ineffectiveness of applying theories of educational planning derived from developed countries to developing countries, and suggests the possible use of systems concepts for a certain type of limited comparisons among planning activities of developing countries.

Available data were assembled in terms of inputs into the education system and in terms of outputs designed to change the environment of the system. Patterns that emerged were compared with patterns observed in western industrial nations, and an analysis of the data showed pressure patterns on the systems of the developing countries, unfamiliar in western countries. Factors influencing decisions were not educational or administrative but political. The outputs of the politico-education systems of developing countries were concerned with a wider range of topics, and, in quantity they were greater than in developed countries where a reduction in the need for decision making was effected by an existing body of laws, customs and traditions.

Hence, the administrative skills and understandings required in developing countries were different from those taught to educational administrators in Europe and North America.

Report

The most cursory examination of reports on research into educational planning in developing countries shows the variety of criteria and approaches being employed. If there is little agreement in Western countries about the most appropriate theoretical framework for the study of educational administration, the problem is far worse in Asia and Africa. So little formal study has been carried out in these areas on the basic problems of managing schools, that it could hardly be expected that time and attention would be devoted to the seemingly esoteric field of administrative theory.

Yet the need for theory is at least as great in the developing countries as in more stable situations, indeed it might well be claimed to be much more necessary where the data are diverse and disorganized. It is true that some kind of theory is being used whenever any observation of educational planning is made, inasmuch as theory must direct and control what is observed, how it

is observed, and how the reporting is handled. Observation is certainly based on the assumption that the data collected are important with regard to the problem being studied, and this is an abstract or theoretical assumption. When the observer passes to organizing his material and drawing conclusions for future action these stages are likewise guided by theoretical concepts.

Needless to say, these theoretical frameworks are seldom formalized. They are based on sets of personal values formed during the observer's own education, and on a methodology derived from the traditions of educational literature generally and the assumptions of the system in which the observer is working. No great harm results from administrative research being carried out in this way. Those who use the results are familiar with the values and the traditions on which they are based. The situation is quite different, however, when scholars from other cultures and traditions attempt to make use of the data. There is now no common ground of accepted meanings: every term needs to be explained. There is now no common ground of shared values: the foreign scholar cannot comprehend the apparently illogical prejudices and preferences of his colleague living in a different country. It is thus not surprising that relatively little cross-cultural comparison has taken place in the field of educational administration. International organizations have collected statistics on such quantifiable matters as educational finance and school attendance, and have circulated them throughout the world, but they have proved of little assistance in solving specific problems in individual countries. Data on administrative patterns and school organization have seldom been used outside their country of origin because they could not be fitted into the conceptual framework of discussions in countries with different meanings and values.

It is not to be expected that this problem of comparability of data will ever be completely solved, regardless of the amount of time, money and effort which might be expended on it. One cannot conceive of one grand, over-arching theory of educational administration which could permit the educational problems of countries at different stages of development to be observed and explained in identical terms and by identical methods. It is possible, however, to bring some measure of order into the present chaos and confusion by the use of partial theories. These would be directed towards providing the rationale for limited comparative studies of specific administrative activities in the education systems of countries.

This present report is intended to suggest to those interested in developing such partial theories that systems concepts have possibilities for certain types of comparisons among the planning activities of some of the developing countries. The first experiments with this approach have revealed advantages in the handling of data and in seeking explanations for observed phenomena. It is hoped that from repeated applications of the concepts to real data from the education systems of developing countries partial theories will emerge which will become powerful analytic tools for the research worker and for the administrator.

Systems theory has been employed in a variety of ways in educational administration. Its application to the everyday business of managing schools provides few difficulties: practices developed in commerce and industry for handling man-machine systems need little change when introduced into education offices. Similarly, the use of systems theory for handling education budgets and financial decision-making is relatively easy.

It is in the broader and more complex areas of general decision-making that systems theory needs to be re-thought and remodelled if it is to prove useful in education. Business administration and public administration scholars have understandably given less attention to these facets of systems theory, and the student of educational administration must turn rather to the writings of sociologists, anthropologists and political scientists if he is to find systems which resemble the models needed in his own field of study.

During the present investigation, the basic model employed was constructed by the American political scientist, David Easton. It has the virtues of clarity and simplicity, and was intended for use with data similar to that needed for the study of educational administration, namely the outputs of influence groups, legal structures, institutions and bureaucracies. The procedure used was to sort data from a few developing countries on the basis of the Easton input-process-output-feedback model, and then to adjust the categories and structures whereever the model seemed inappropriate for educational data.

This intial testing made it possible to formulate some theoretical guidelines for the employment of the systems model in more detailed and thorough studies of educational decision-making in developing countries. One early conclusion was that the systems under study must be referred to as "politico-education systems" rather than simply as "education systems". As data were sorted, it became increasingly evident that decisions popularly supposed to have been made by the educational bureaucracy (or even more erroneously by an individual in the bureaucracy) were, in fact, decisions arrived at by a political process in a political context. Frequently the factors influencing the decision were not wholly, or even mainly, educational or administrative. They were concerned with politically-allocated financial and other resources, with the exercise of political power both inside and outside the bureaucracy. They were concerned with the value systems of politically powerful groups.

The intial step in the preparation of a decision-making model for a politico-education system is the selection of variables (in this case, the individuals or groups participating in the decision-making process). The first response of those asked to assist in this selection was to name education officials in order of seniority. After some discussion, it became evident that those actually responsible for decisions included many advisers, committees and assistants. It was also obvious that other individuals participated informally in decision-making, but experience has shown that it is best in general comparative studies to make use of the formal power structure, and to leave the informal structures which exist in every system for detailed intra-national studies.

When the decision-making system had been identified, consideration was given to the possibility of proceeding with an analysis of the process within the system. This is an interesting and valuable activity. It was decided, however, to turn instead to the input sector. Examination of the internal processes of an education system require such large quantities of detailed empirical data of a kind not ordinarily published that it seemed better in the early stages of systems analysis to treat the processes by the "black-box method". This procedure, which has been used in other areas of systems study, assumes the processes without attempting to identify them. It allows the analyst to concentrate on the input and output sectors of the model.

The availabe data was therefore assembled in terms of inputs into politico-education systems from the immediate environment, and in terms of outputs designed to change the environment of the system. It was then possible to look for patterns of inputs and outputs and make comparisons with patterns observed in Western industrial nations. In the early results some interesting differences could be observed. In the developing countries, there were more inputs from organized political groups, and particularly from groups with pronounced sectional or partisan interests. Not surprisingly, there was also strong influence from erratic financial fluctuations and from extra-national groups.

When the outputs of the main politico-education systems of several developing countries were examined, it was found that these were typically concerned with a much wider range of topics than those of developed countries, and they showed irregular time sequences. The actual quantity of output was overall much greater than in developed countries. It appeared that in the latter a reduction in the need for decisions was effected by the existence of bodies of law, custom and tradition related to education. It was also apparent that there was some wastage and overlap in the outputs which was occasioned by inadequate feedback into the system regarding the results of earlier outputs.

From the first results emerging from the analysis of politico-education systems in developing countries, it seems that education bureaucracies are being subjected to pressure patterns unfamiliar in Western countries. Administrative skills and understandings different from those sought in and taught to educational administrators in Europe and North America are required of those managing education in Asian and African countries.

The research which has been described here looks to results which will be helpful to administrators in understanding the decision-making processes in their own and other countries. It also seeks to provide a fundamental theoretical underpinning for all the applied research into educational administration which is now spreading in the developing countries. Hopefully, it will introduce a stronger element of logic and better defined categories and concepts into this important field of research.

A STUDY OF THE ENGLISH PUBLIC SCHOOL TRADITION IN THE FORMER EUROPEAN SECONDARY BOARDING SCHOOLS IN KENYA AND ITS INFLUENCE ON OTHER SECONDARY SCHOOLS

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Summary

Reference: Vol.3 (1970-71) B1 (p.13)

The study traces the development of colonial attitudes and outlook in Africans educated in the English Public Boarding School tradition in Africa. It shows the repercussion this has had on the country in its attempt to grow into a united and truly African country; and it suggests that the difference between the African socialist philosophy accepted by the government and the educational practice of these schools can be considerably narrowed if these schools become "Sixth Form Colleges", providing an easier social milieu for inter-tribal mixing.

Report

The thesis traces the English public school tradition in Kenya and notably in the former European secondary boarding schools. It is the author's hypothesis that aspects of the English public schools were apparent in these European schools to a much higher degree than in other secondary schools. Undoubtedly it was natural that English settlers and administrators wished to provide an education comparable to the very best they could find in England - the English Public Schools.

The main aspects of the English public school were thought to be independence, selectivity and boarding with the additional assumptions of the English public school tradition:-

(1) A belief that the main purpose of education is character training and that it should be primarily based on religion.

(2) A conviction that the function of a public school is education for leadership which in turn stresses the importance of service.

(3) The qualities of character training, leadership and service, can best be developed in the communal life of a boarding school.

(4) Close associations of family, school, and university should be preserved.

Numerous schools in Kenya were taken as a basis for study; the closest study was naturally made of the former European secondary boarding schools because on these the author's hypothesis rested. What criteria distinguished them from other Kenya secondary schools? Firstly, they possessed superior buildings, extensive playing fields and other excellent amenities. Secondly, they charged higher fees than most other schools (higher cost schools). Thirdly, they tended to meet periodically for concerted action over common problems, on their own initiative and without government sanction. Fourthly, they were staffed by the cream of the European Colonial Service who were civil servants and predominantly Oxbridge graduates. Lastly, their house systems, internal structure and ethos were typical of the English public schools.

In other Kenyan secondary schools there were many facets of the English public school tradition, evolved and transmitted by English public school minded principals and teachers. Government boarding schools for Africans such as Machakos, Kagumo, Kisii, Kakamega, Shimo-le-Tewa, Kapenguria, Kapsabet, Tambach, etc. established predominantly in the late 1940's possessed European government officers as headmasters. The day schools for Asians which were government maintained such as Allidina Visram, Mombasa, the Duke of Gloucester and Duchess of Gloucester Schools, Nairobi, circulated an English type of culture because the English tradition was the accepted social frame. In the missionary schools, which mainly catered as 'central schools' for surrounding primary schools, the English public school tradition was watered-down and not so strong as the government schools because of the missionary sympathy and empathy with African aims and aspirations. Sometimes the English tradition was almost non-existent because the missionaries were of Dutch, French, Italian, and of other national origin.

Although religion dominated the missionary schools, a bias of religious character training permeated the government secondary schools in conjunction with the stronger elements of the English public school tradition. One must sympathise with African children during the colonial period because they were forced to adopt, as the price of a formal education, either a firm English culture tinged with religion, or a denominational religion tinged with foreign culture. In retrospect, the Africans preferred the latter. Today, Africans rarely resent the colonial influence of the missionaries: the missionaries were friends of the people (wananchi) in their struggle for nationhood. 1 However, it should be noted that when expatriate teachers teach African children, regardless of their subject or missionary zeal, they inevitably colour the child's mind, in fact Europeanise them to a certain degree, dependent on the psychological background and family circumstances of the child; the effects of school organisation generally, and the boarding school particularly, are important contributory factors in this process.

Overall, the truest reflection of the English public school tradition was in the higher cost schools because of their colonial government backed independence and selectivity, their relatively high fees, their boarding aspect with lavish amenities, their very English organisation and administration, and their high esteem and prestige which exerted considerable influence on other sectors of education and life.

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1 "President praises job done by missions," Page 1, East African Standard. November 28th, 1970. Report of a speech on the opening of new extensions to Alliance High School, by the President, Mzee Jomo Kenyatta.

With Independence in 1963, the new Kenya Constitution abolished all discriminatory laws, and, instead of separate racial sectors in education, one unified system became the aim and essence of Kenyan education. The new political philosophy of African Socialism stressed co-operation and unity rather than the English tradition of competition and stratification. As a result there were many aspects of education in conflict: a unified secondary school system versus independence for a school or a group of schools: centralisation versus decentralisation: social aims and needs versus individual ones: selection on academic ability versus selection on race or wealth: African culture versus English culture.

The ethos of the former European secondary boarding schools did not change abruptly on Independence, and they continued to provide character training for leadership and service in the sense they had done so in colonial times: these schools were geared by their seniority and house systems to produce leaders who did not participate in menial tasks; 'fagging', the use of laundries, servants and cleaners, were not abolished, and the services were utilised for a multiracial atmosphere including African students. By the late 1960's these élite secondary boarding schools were predominantly African in race, but the products from these schools possessed a far different mentality in attitude and outlook from other African students, especially those students from the new 'harambee schools' which had mushroomed throughout Kenya during this period to boost Kenya secondary education output several fold.

African politicians are now realising this problem in the 1970's: the Secretary-General of the leading political party, the Kenya African National Union stated, "the danger facing Kenya today is that there is growing a small tribe of English-speaking Africans who do not know anything about their own language or culture. This small tribe think in English ... when they fight, they use English,and when they dream, they dream in English."1

This problem would never have arisen if the strong and all-pervading character training emphasis of the English public school tradition had been realised. There will be other problems, mainly economic and socio-political in content which stem from the tardiness of the Ministry of Education to act promptly. Firstly, it is now difficult to eradicate the high cost schools because they have become entrenched with what can only be denoted as "Black European" ideas,and with almost ten years of Kenyan independence there is African vested interest to consider now. Secondly, the majority of former European secondary boarding schools are Nairobi-based, and the African students there mix with cosmopolitan influences; some of these may be salutary, but others are distinctly un-African: Western hippie-attitudes, drug-taking, crime, permissiveness, affluent teen-age parties. These are not for imitation by African students who are intent on

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1 Mr. Matano addressing the Kenya Press Club on the introduction of Swahili as the national language, reported Page 5, East African Standard. November 11th, 1970.

national development in a country with a predominantly agricultural economy. There are expensive schools in Kenya outside the State system, but the high cost schools are government assisted schools (similar to the direct grant schools in England), and this means the Kenya government condone different fees in different secondary schools.

The considerable difference between African Socialism philosophy and educational practice could be narrowed considerably if these élite secondary boarding schools became VI Form Colleges for the following reasons:-

(1) They have prominent academic staff (still predominantly expatriate), excellent buildings, superior facilities, and out-standing amenities.

(2) It would centralise Kenya's limited resources and increase efficiency at this level for higher grade manpower.

(3) There are many practical advantages to large VI Forms - the larger size can offer a variety of subjects: special interests and abilities can be catered for with a wider range of extra-curricular activities. There is less duplication of expensive specialised equipment, e.g. fully equipped science laboratories, computers, language facilities, internal television systems.

(4) The VI Form College is an easier social milieu for inter-tribal mixing. There should be no need now, for the ubiquitous English public school tradition of prefects; mutual social responsibility could be achieved more easily by the institution of a VI Form Society.

Meanwhile, the government has decided to establish VI Forms widely scattered throughout the country. This system does not encourage national unity, rather it causes political frictions in the choice of area and school for extension of VI Forms. From the academic and financial points of view, a proliferation of small VI Forms seems inadvisable and can be positively wasteful; moreover, to leave the former European secondary boarding schools in their present form and function of producing a different social class based on wealth is contentious and damaging, to say the least, to the social philosphy of the country.

It is significant that two recent government Commissions - Ndegwa,1 and Bessey 2 have both raised the question of the VI Form College but they may well be ignored on this question as were the International Bank for Reconstruction Mission 3 in 1963 and the Kenya Education Commission Report 4 1964.

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1 Pages 156-157, Report of the Commission of Inquiry (Public Service Structure and Remuneration Commission) 1970-71. Chairman, D.N. Ndegwa, Republic of Kenya, Government Printer, Nairobi, 1971.

2 Pages 202-217, A Study of the Curriculum Development in Kenya. by Gordon S. Bessey. The report of an advisory mission under the terms of an agreement with the International Development Association and the British Overseas Development Association, Nairobi, 1971.

3 Page 233, The Economic Development of Kenya. The International Bank for Reconstruction and Development, John Hopkins Press, Baltimore, 1963.

4 Para.41, Kenya Education Commission Report, Part I. Government of Kenya, Nairobi, 1964.

STAFFING ZAMBIAN SECONDARY SCHOOLS

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Summary

Reference Vol.3 (1970-71) A7 (p.5-6)

The study attempted to establish more objective, reliable and accurate criteria for staffing secondary schools in order to reduce cost, and to avoid wastage in man-power by a haphazard distribution of staff within the school or within the system, or by unrealistic teacher-pupil ratios and time-tables.

The investigation revealed areas of weakness and strength and suggested ways of utilising the human resources and improving the system.

Report

Recognition of the fact that the "education industry" remains stubbornly labour intensive and is the largest employer of highly trained people makes it essential that all educational systems find the best way of utilizing these scarce teaching skills. Obviously, this applies with even greater force in developing countries, where there is an acute shortage of qualified secondary teachers and the rapid expansion of education at this level is heavily dependent upon the employment of expatriates on a large scale. This is especially true of a country like Zambia where, because of the tremendously rapid expansion of secondary education involving a quadrupling of enrolments since Independence in 1964, the secondary teaching force still comprises about 90 per cent expatriates, and teachers' salaries represent about 55 per cent to 60 per cent of total recurrent expenditure, excluding amounts paid by donor countries in respect of various allowances to expatriate teachers.

Attempts to lower unit costs in education through a "technological breakthrough" or changes in school organisation by the introduction of team teaching have made no significant impact in developing countries, and for several reasons it is very unlikely that either of these approaches will in the foreseeable future result in marked economies in the use of teaching manpower. However, more obvious ways of economising in the use of teaching staff are often ignored. In determining the staffing levels of individual schools there is frequently a complete absence of any objective standards, and teachers are allocated to schools, if not according to the whim and caprice of some administrator, then, as the result of a variety of fortuitious influences. In considering the school staffing arrangements and procedures operating in an educational system we can judge the efficient

operation of the system by asking the following question: Is there an equitable distribution of teachers among the various secondary schools, or is the staff ratio in some schools comparatively generous, while others are more tightly staffed? If the latter is true, and more often than not this is the case, then scarce teaching manpower is being inefficiently utilised. If some or most schools are overstaffed then either other schools are suffering from staffing shortages or there is an overall surplus of teachers resulting in a serious drain on recurrent expenditure.

The fundamental aims of the investigation were three-fold. First, a methodology and procedure was planned that would aim at establishing, by a series of formulae, a method of estimating the number of teachers of various specialisms required by different types of secondary schools. What was required was the establishment of more objective and reliable criteria for accurately estimating the teacher requirements of individual secondary schools and so of the secondary system as a whole. Secondly, by interviewing a representative sample of headmasters, to gather information relative to the problems of staffing procedures not readily amenable to tabulation. In a broad sense to systematically assemble the views of heads of secondary schools as to the principles guiding good staffing practices. Thirdly, a study was made of the attitudes of secondary teachers to the actual work involved in teaching, as well as their attitudes to the broader issues in education. The 'work load' of secondary teachers was computed and a study made of how the teacher spends and distributes his time between the various tasks involved in the teaching process.

The procedure adopted in the investigation involved studies which can be divided into two parts. From school staffing returns and other statistical information available at the Ministry of Education part 1 of the inquiry concentrated, in particular, on a comparative analysis of pupil teacher ratios in all secondary schools. In part 2 of the inquiry a more detailed analysis on staffing and organisation in a carefully selected sample of 20 per cent of all secondary schools was carried out. Of the 99 government and aided secondary schools 21 schools were visited of which 4 were aided and the remainder government.

Before summarising the main conclusions and recommendations emanating from this inquiry there follows a few brief relevant facts regarding secondary education in Zambia:

a) The secondary course extends over five years leading to the Cambridge Overseas School Certificate. The range of subjects offered is between 18 and 22 and there is no sixth form.

b) The schools have a forty period week, and stipulated class size in the junior school (forms 1-3) is 40, and in the senior school (forms 4 and 5) is 35. Technical subjects for boys and domestic science for girls are taken in half-size classes. At the end of form 3 it is planned that 50 per cent of pupils should proceed to form 5.

Comparative analysis of pupil/teacher ratios

From a comparative analysis of pupil/teacher ratios in all government and aided secondary schools the following points emerge:

i) While there were certain significant differences in Regional averages, especially between urban Lusaka and the rural North Western Region, the greatest disparities were found to exist between different schools within each of the Regions.

ii) There was no obvious difference between average pupil/teacher ratios in boarding schools and day schools and it is rather surprising that the latter were slightly more generously staffed.

iii) The disparities in staffing between schools could not be correlated with the size of the school, in the sense that the analysis did not reveal any relationship between the size of a school and the pupil/teacher ratio.

iv) The most generously staffed schools were found to be in the Lusaka area, in spite of the fact that the Capital of the Republic has an acute housing shortage, and almost all schools are day schools.

v) The whole staffing situation is so chaotic and confused that the wide disparities in pupil/teacher ratios do not in any sense appear to be justified by any objective staffing criteria, and obviously something constructive must be done to narrow the gap between the worst and the best staffed schools.

A study of staffing and organisation in a selected sample of schools

In comparing and assessing the staffing situation in different schools the measures used, in addition to pupil/teacher ratios, were the number of periods taught by each teacher and teacher loads computed in terms of the number of pupil/teacher contacts in a week.

In boarding and day schools not only was there no difference in average pupil/teacher ratios but there was no significant disparity in average teacher work loads. There was no clear relationship between, on the one hand, size of school, and on the other, pupil/teacher ratio and average teacher work loads, nor could this be explained by the fact that the smaller schools were offering a restricted range of subjects and options. Even when an attempt was made to rationalise the staffing situation in the sample schools by proposing teacher loads compatible with effective teaching and workable timetables it was often shown that within a range of secondary school rolls between 500 and 900 pupils the larger schools would not be able to make significant economies in the utilisation of staff. Within the range of about 18-22 subjects offered in Zambia secondary schools as small as 400-500 pupils can be economically organised and staffed.

Almost two-thirds of heads and 80 per cent of teachers did not favour schools of more than 700 pupils and considering the almost intractable problems facing the staff in the rural dual secondary schools of 800-900 pupils at present, there are very strong arguments against allowing these schools to become larger.

An acute housing shortage in certain urban areas creates staffing problems for some schools and, conversely, because of the inflexibility of the teacher supply situation created by the presence of expatriates, a school may well be overstaffed due to the fact that housing is available. In the present study only one head attributed his tight staffing situation to housing difficulties and only four heads, on their past experience, considered that housing problems had resulted in staff transfers. Since schools on the Copperbelt, where almost all are day institutions, had an average pupil/teacher ratio which was not significantly above the national average, and the Lusaka schools were the most generously staffed in the country, it can be concluded that housing difficulties account for disparities in staffing in only a very few cases. The fortuitous access to a 'pool of teaching wives' overcomes the problem of a housing shortage in these urban areas. However, a very high proportion of wives in a school may be a source of instability through increasing the rate of staff turnover. Moreover, there may be disadvantages from an educational point of view in schools where most of the pupils are boys, and wives may be less willing to undertake extra-curricular work. Wives make an invaluable contribution in staffing secondary schools but they should not be recruited indiscriminately.

Organisation of teaching groups

In schools which are tightly staffed teachers carry heavier teaching loads, and in the better staffed schools, not only do we find lighter teaching loads, but, in general, high percentages of the staff teach only one subject. Evidence produced exposed the fallacy of allowing staffing requirements to be determined by the subjective assessments of individual heads of schools.

Efficient timetabling and economic use of staff

A substantial majority of heads of schools thought that teachers should be expected to teach in two departments and only a slightly smaller proportion were in favour of having on the staff some teachers capable and willing to teach a range of subjects. Heads were divided on the issue of using part-time teachers, though a judicious use of these teachers can result in an economic utilisation of staff. Schools varied considerably on the issue of teachers willing and qualified to teach more than one subject. There are sound pedagogical reasons for teachers in the lower forms of the secondary school being trained to teach a range of subjects. Whether or not teachers should be expected to teach subjects in which they have not been trained is a controversial issue. In the present inquiry three-quarters of the teachers interviewed were at that time, or had in the past, taught subjects in which they had not been trained, a similar proportion had no real objection to this, but one-quarter said they would refuse or be very unwilling, if asked, to do so. An economical use of staff and the avoidance of unequal teaching loads is possible if most teachers in a school are prepared to offer two, or in some cases three, teaching subjects and there is a discriminating use of part-time staff. Except for certain teachers in chronic short supply, it should be a precondition of appointment that all teachers should offer at least two teaching subjects. Members of the 'voluntary services' should be given lighter teaching loads and involved more in the extra-curricular activities of the school. Experiments should be introduced to use these mainly inexperienced young people in a team-teaching situation with more experienced teachers.

Establishing more reliable criteria for staffing schools

Teacher requirements appear to be heavily dependent upon the rough estimates of Ministry of Education staffing officers and individual heads in secondary schools. The very wide variations in staffing between schools make it imperative that measures be introduced to bring about a more equitable allocation of teachers. From calculating the loads of teachers on the basis of the number of pupil/teacher contacts, in the twenty one selected schools, it was found that teachers with the heaviest loads teach those subjects which are taken by the great majority of pupils; teachers taking optional subjects had slightly lighter teaching loads, and practical subject teachers carried loads that were significantly lighter. An average of 30 periods per week for secondary teachers is considered reasonable and compatible with effective teaching. If heads of departments are given extra non-teaching periods of, say, five, then the average number of periods per teacher would be about 31. There should be no distinction between teachers in day and boarding schools in prescribed numbers of teaching periods, though in boarding schools, in addition to a boarding master, efforts should be made to give increased responsibility allowances to housemasters and hostel superintendents.

A reasonable average number of pupil contacts per week may lie within the following ranges for particular teachers;

Teachers of English, Maths.,History, Geography, Civics, Music, P.E.,R.K.	Teachers of Science, Art, Commerce, Agricultural Science, all languages (exc.English)	Teachers of Practical subjects-technical and Domestic Science
1,025-1,075	950 - 1,025	550 - 600

On the basis of these proposed teacher loads, it was estimated that in the selected schools there would be a staff saving of over sixty teachers, which would indicate a saving in the secondary system as a whole of 250 to 300 teachers. This must be regarded as a very large item of recurrent expenditure. It is important to notice that present financial and accounting procedures appear to allow a considerable degree of latitude in allocating funds for the payment of teachers' salaries. The latter is paid from 'Personal Emoluments' and estimates of sums of money budgeted for under this heading are based on the 'Establishments Register'. However, in estimating secondary teacher requirements for inclusion in the Establishments Register there is no clear indication as to how these estimates are arrived at, and in any event if additional teachers are appointed, say locally, it would appear that funds from Personal Emoluments can usually be found. Evidence for this can be deduced from the fact that some schools are permitted to continue to hire staff even when their staffing ratio is already particularly generous.

Prescribed pupil/teacher ratios in relation to school size

For the country as a whole an overall pupil/teacher ratio of 23 would seem to be viable. Where the sizes of secondary schools vary from 400 to 900 pupil/teacher ratios would lie within the range of 21 to 24 with schools offering approximately twenty subjects. Projections of future staffing requirements of individual secondary schools, and so of the secondary system as a whole, are probably best calculated by computing the total number of periods required for the teaching of each subject, used in comparison with prescribed pupil/teacher ratios.

Rationalising the system of staffing secondary schools

A very high rate of teacher turnover in Zambian secondary schools is having a seriously damaging effect on pupil performance and is undoubtedly an important contributing factor at the root of poor results in external examinations. A low rate of contract renewal by expatriate teachers is directly linked to this high and depressing rate of staff turnover. High turnover emanates from other sources and there seems to be a lack of adequate planning in the allocation of staff.

By any reasonable standards the majority of the schools in the selected group was significantly overstaffed. However, three-quarters of heads complained that even if the Ministry did send them a 'body' it was frequently not the subject teacher requested. More than half of the heads thought that the majority, or vast majority, of transfers of staff were by and large unnecessary. The great majority of heads are unhappy over general staffing procedures. To allow individual schools to recruit their own staff would be impracticable and unrealistic. The concept of a 'pool of teachers' is conducive to excessive movement within the system, and the situation is further aggravated by the fact that education has not succeeded in disentangling itself from other government departments and teachers are treated in many ways similarly to other civil servants.

The role of the staffing officer

The person responsible for staffing schools must be a professional educator of high rank in the Ministry of Education. There may be a tendency to appoint a 'Staffing Officer' whose background and experience is that of a general administrator, but this is bad practice, since the result is likely to be a conflict of views, and even a complete blockage of communication between the staffing officer and the people in the schools. A staffing officer without intimate knowledge and experience of the day to day problems and needs of the schools is not likely to be sufficiently expert or sympathetic, nor will he have the professional respect of teachers and heads of schools.

Statistical information and its interpretation

A proper rationalising of the staffing situation in the system will only be possible if there is a smooth flow of information between the schools and the Ministry of Education, both ways. The information that is required from schools, and embodied in staff returns, should be carefully thought out. More care, too, is required in compiling these returns, which should reflect the staffing situation on a specific day of the month, and the use of terms should be carefully defined. The organisation and allocation of teaching staff can only be efficiently planned for the future if comprehensive and accurate advance information is available to the staffing unit.

The present practice of overstaffing schools for two terms of the year, to the extent of 250 to 300 teachers, because of staffing difficulties experienced during one term, is extremely wasteful. In large part this could be overcome if expatriate contract appointments were more definitely and carefully fixed and arranged. Tours of duty should be for two or three years and expatriate teachers should, as far as possible, take their leave to coincide with the school holidays.

Secondary teachers' work load

From data collected during the interviews the following shows how the average secondary teacher divides and distributes his time between the various aspects of teaching:

Number of teaching periods	27.5
Number of hours spent marking	6
Number of hours devoted to preparation	6
Number of hours spent on extra-curricular activities	5.5

However, it must be stressed that these averages conceal a great range in the amount of time devoted to each aspect of teaching. Some duties extraneous to teaching for teachers in day and boarding schools are regarded as burdensome, but for the majority the problem of extraneous duties is a marginal one. The average working week for all secondary teachers was found to be 49.5 and there was a marked difference between the average 54-hour week for teachers in boarding schools and an average of 40.5 for teachers in day schools. The typical secondary teacher in Zambia is conscientious and industrious and in many cases prepared to work longer hours than would generally be expected of him, but again it should be stressed that the range in working hours is considerable.

Problem facing secondary teachers

The most serious problems facing teachers were found to be as follows, ranked in order of importance:

1. Large classes
2. Low standard of work due to pupils' apparent lack of ability or inadequate motivation
3. Rigid curriculum or restrictions by examination requirements
4. Poor or insufficient equipment
5. Too many clerical or extraneous duties
6. Lack of school policy
7. Salaries

The following, again ranked in order of importance, were what teachers considered most important in their work:

1. School administration, good school organisation and efficient communication
2. Good staff relations
3. Smaller classes
4. Good school buildings, school amenities, equipment and materials
5. Salaries and status

Job satisfaction

About three-quarters of the teachers interviewed found their job fully satisfying or generally satisfying. A subjective impression gained by the investigator was that, in spite of some dissatisfaction with prevailing conditions and some criticism of those in authority, there is among teachers in Zambian secondary schools a great deal of good will towards the country and an awareness of its educational problems.

Career plans of teachers

About one-quarter of the teachers were, at the time of the interviews, seriously considering asking for a move to another school in Zambia - this must be seen as another potential source of instability in school staffing. When teachers in the sample were asked if they intended to renew their present contracts they replied as follows:

Yes	17%
No	56%
/undecided/doubtful	27%

Over 80% of the teachers gave as their primary reason for not wishing to renew their contracts unhappiness with the conduct of administrative affairs generally speaking. Even when allowances were made for the formidable difficulties facing educational administrators, and doubts may be cast on the reliability of the replies given by some teachers, it seems that the great majority of teachers have little confidence in some officials and relationships between them left much to be desired. The emphasis which teachers place on sound administration and staff relations throws into striking relief the fact that the problem of retaining expatriate staff in schools, and increasing teacher satisfaction, must be regarded as an exercise in personal relations. The people working in the schools feel that some Ministry officials do not care about their welfare, and some teachers have come to look on these officials not as their freinds. Unless something is done to promote mutual confidence throughout the secondary school system, which is essential for harmonious relations, then the prevailing atmosphere within the secondary schools will continue to deteriorate.

Attitudes of heads and teachers to broader issues in education

Four-fifths of heads and almost three-quarters of teachers were against the 'comprehensive' type of secondary school, and similar proportions opposed the idea that all secondary schools should offer the same range of subjects and options. Eighty per cent of teachers and 86 per cent of heads were in favour of streaming or setting, and three-quarters of teachers and two-thirds of heads thought this should happen, at the latest, by the end of the first year. Arguments to the effect that it is educationally desirable, and in some sense fairer, to group pupils according to subject and not ability are largely illusionary, and in practice this system of grouping can be even more pernicious than normal steaming practices. On the issue of co-education heads were very much divided. In many cases separate schools were justified on the grounds that girls in schools of their own gained confidence and had a better chance of overcoming inferiority feelings which find their origins in historical and cultural patterns.

An expanded version of this report has recently been published by the University of Zambia, Institute of Education in Communication No. 8 for 1972 under the title 'An Inquiry into Staffing Organisation of Secondary Schools in Zambia'. Available from the University Publications Office, P.O. Box 900 Lusaka, Zambia (K1.60 (0.80)

UNIVERSITY COST EFFECTIVENESS

Anthony Bottomley and John Dunworth
University of Bradford

Summary

Reference : Not listed

This project was undertaken to discover how much it cost to educate an under-graduate in each year of his course, what were the different components that contributed to the cost, and how the overall cost might be reduced.

A technique known as output budgeting was used in this study which revealed interesting data on the under-utilisation of teaching resources, buildings, equipment and facilities.

The report suggests that larger university departments, a building design and timing more closely related to academic plans are some of the ways of reducing cost.

Report

The United Kingdom's Department of Education and Science and the Organisation for Economic Co-operation and Development in Paris have recently financed a study of cost-effectiveness at the University of Bradford.[1]

The objective was to discover how much it cost to educate each under-graduate in each year of his course, what the different components of this cost were, and how they might be reduced. The technique employed is known as output budgeting. It is part of what the Americans call planning programming budgeting systems (PPBS).

Any approach to attributing costs to individual students on particular courses is unavoidably complicated and open to criticism at every stage. In practice virtually every resource used by the university contributes to more than one course and nearly all costs are, in one way or another, joint costs. Academic staff teach and pursue research; technical staff service teaching and research laboratories; classrooms, laboratories and items of equipment are used by students on different courses; materials are purchased on behalf of Schools of Studies and it is difficult to find the course for which they are ultimately used and so on.

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[1] See, John Dunworth, R.K. Khanna, R.M. Dasey, M. Pickford, R.E. Cooley, C. Barton, Aiden Duggan and Anthony Bottomley, Studies in Institutional Management in Higher Education - Costs and Potential Economies (Paris: Centre for Educational Research and Innovation, Organisation for Economic Co-operation and Development, 1972).

Nevertheless, we have tried to discover how each of these components contributes to the expense of producing each student in each discipline at the University of Bradford and to enumerate the potential economies which we believe are revealed.

I Components of cost per students

Table 1 below illustrates the way in which various courses at Bradford were divided between the three classes of cost components: (1) capital and maintenance (2) teaching costs and (3) administrative, library, student facility, general and miscellaneous costs.

Capital and maintenance costs represent an imputed rent for the use of classrooms, laboratories, libraries, offices and student facility space, such as refectories and social facilities. The rent comprises annual interest at 7 per cent and amortisation payments [1] over 50 years on the insured value of buildings and non-teaching equipment, together with maintenance costs. The total annual cost of each building in the University is then allocated to the different kinds of room (classrooms, laboratories, offices, etc.) in proportion to the area that each type constitutes of the total usable area of the building, but with a weighting factor to allow for the greater cost of constructing laboratory space.

The annual cost of laboratories and classrooms was distributed over different under-graduates following different courses in proportion to their use by each of these students. This involved a detailed study of the timetable of teaching rooms, and took full account of the use of space in one School of Studies by students from other Schools.

The cost of academic staff offices was distributed in direct proportion to the relative amounts of time devoted to various activities by members of staff. The division of staff time between under-graduate teaching and other activities, such as post-graduate teaching and personal research, was based on the results of a survey carried out in 1968 in which staff kept a diary of their activities for a term-time week. [2] The subsequent division between courses courses was based on a study of teaching timetables.

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[1] Interest is charged only on the land upon which the building stands as it is assumed that it will not depreciate in value.

[2] The allocation of staff vacation time was based upon the relevant section of the Robbin's Report, see Committee on Higher Education, Higher Education, Appx. III (London: H.M.S.O., 1963), pp. 60-61.

Table 1: Total Cost per Student at the University of Bradford (1969-1970)

	Capital and Maintenance Costs		Teaching Costs		Administrative, Library, Student Facility, General & Misc. Expendit.		Total Cost Per Student
	£	% of Total	£	% of Total	£	% of Total	£
Laboratory-based Courses							
Chemical Engineering	908	35	1089	43	560	22	2557
Civil Engineering	1030	41	956	38	523	21	2509
Electrical Engineering	1278	36	1769	49	556	15	3603
Mechanical Engineering	1768	44	1679	42	544	14	3991
Applied Biology	849	27	1639	53	622	20	3110
Pharmacy	1446	44	1329	40	519	16	3294
Chemistry	1915	49	1332	34	627	17	3874
Colour Chemistry	1888	48	1517	39	513	13	3918
Materials Science	1134	31	1874	51	672	18	3680
Ophthalmic Optics	1011	34	1484	49	504	17	2999
Applied Physics	1375	36	1635	46	672	18	3682
Textile Science	1245	40	1290	41	621	19	3156
Classroom-based Courses							
Business Studies	710	34	693	32	711	34	2114
Modern Languages	818	34	748	32	820	34	2386
Social Sciences	548	34	475	30	609	36	1632
Applied Social Studies	676	36	419	22	812	42	1907
Mathematics	907	39	744	33	656	28	2307
Statistics	563	31	613	35	599	34	1775

The cost of administrative offices and student facility space was divided equally over all students, except those on "thin-sandwich" courses [1] who were weighted one half. The cost of library space was also divided equally over all students, but with post-graduates weighted two.

Teaching costs comprised academic and technical staff salaries, superannuation and insurance, the annual value of teaching equipment, and expenditure on materials used in teaching. The cost of academic staff was divided in the way already described. The cost of technical staff was attributed

[1] A "thin-sandwich" course is one with two entries of students per year, arranged so that at any one tome only half the students are present in the university, the remainder receiving practical training in industry.

to different courses in proportion to the relative areas of teaching and research laboratories, and of their use by different courses, since it was found that their number correlated more closely with laboratory area per discipline than with numbers of academic staff.

Similar techniques were employed with respect to the cost per student of staff, stock and equipment in the university administration, library, students' union and so on.[1]

The results of the foregoing calculations for the academic year 1969-70 varied widely between different courses at the University of Bradford. Laboratory-based courses in science and engineering were considerably more expensive than classroom-based courses in social sciences (see Table 1). The cost of educating an under-graduate to first degree level in science or engineering ranged from £2,509 in the lowest-cost discipline to £3,991 in the highest, as against £1,632 to £2,386 in different social science displines.

Annual capital and maintenance costs varied between 27 and 49 per cent of the cost of educating a student to first degree level, depending upon the course involved. Teaching costs were between 22 and 53 per cent of the total, while residual and miscellaneous expenditures ranged from 13 to 22 per cent of costs per student for laboratory-based courses, and 28 to 42 per cent for classroom-based courses.

II Potential economies in existing costs per student

It was evident that some reductions in cost per student could be achieved at the expense of possibly undesirable measures, such as a worsening of the staff/student ratio.

With this in mind, we made detailed studies of the teaching structure of nine under-graduate courses. This involved analysing for each course:

a) the annual contact hours; i.e. the number of hours teaching that a student received each year

b) the number of optional subjects embodied in the course, from which students may select a limited number

c) the size of teaching groups regarded as educationally acceptable by the School of Study

d) the relative balance of lectures, classes, laboratory sessions and tutorials within the total contact hours

From this data, we estimated the total number of teaching meetings that would have to be provided as the values of these parameters were varied. From the number of teaching meetings we calculated the number, and therefore the cost, of academic staff required, and the consequent effect on total cost-per-student.

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[1] For a detailed description of this methodology as applied to the earlier academic session of 1966-67, see: R.K. Khanna and Anthony Bottomley, "Costs and Returns on Graduates of the University of Bradford, "Accounting and Business Research (No.1, Winter 1970).

Taking the nine courses together, the following results were obtained. A 20 per cent reduction in contact hours per student caused average cost reductions per graduate of 5.1 per cent. A reduction by two in the range of optional courses of lectures offered per degree course saved between 1 and 4.8 per cent of per graduate cost. Yet increasing the maximum size of teaching groups by 60 per cent did not reduce per student costs by more than 1.7 per cent on any but one of the courses examined. Similarly, replacement of small tutorials by lectures and classes produced an average saving of only 2.7 per cent.

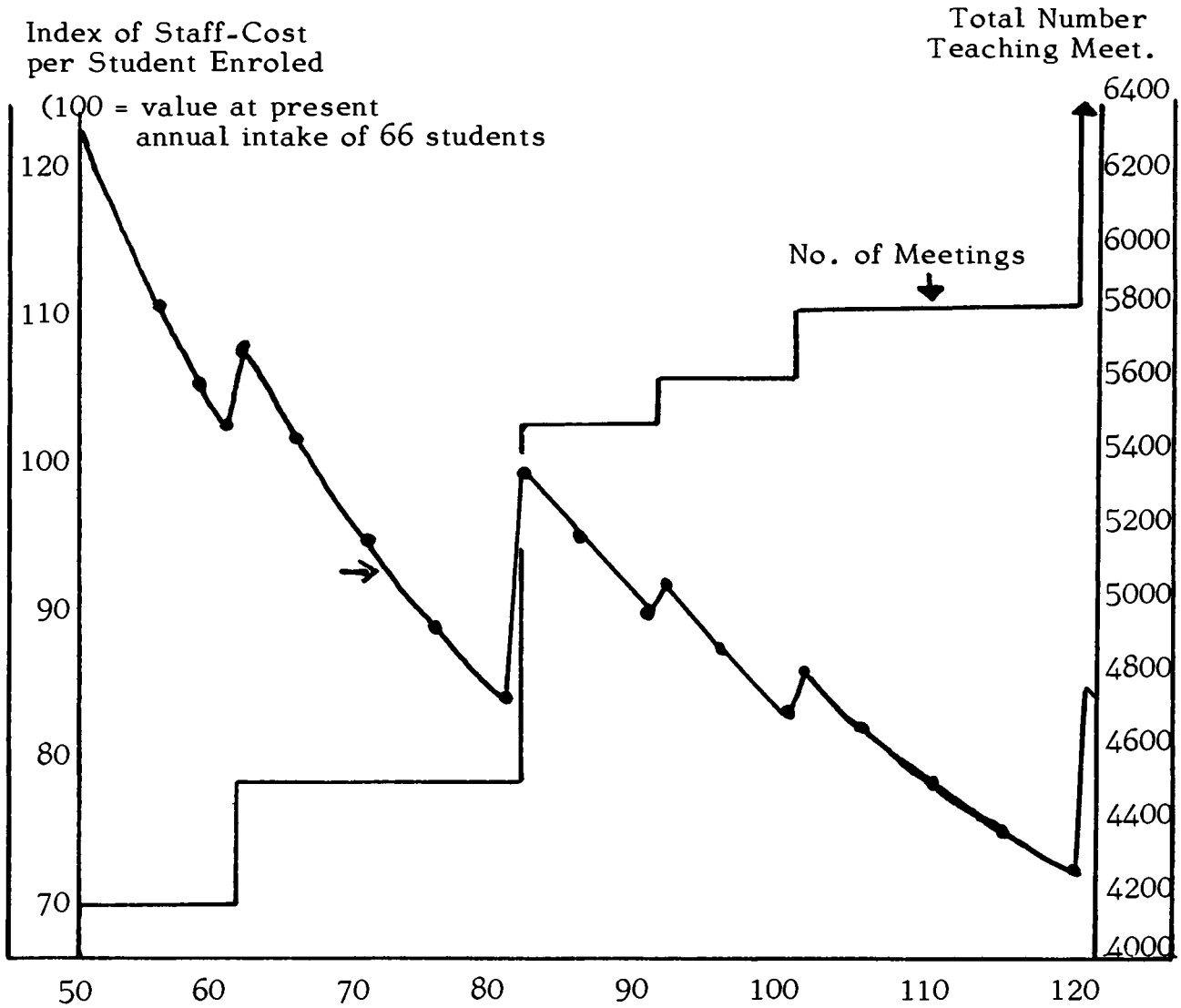
III Economies of scale

Once buildings have been constructed, staff employed, libraries stocked and so forth, there could appear to be very few opportunities for effecting significant economies. We therefore continued our analysis of the teaching structure of nine courses, postulating successive increases in enrolment, by one student at a time, up to more than twice the present number. We calculated the number of teaching meetings that must be provided at each level of enrolment on each course, if the appropriate professor's maxima regarding student numbers per type of meeting were observed. Assuming a constant staff teaching load, the number of academic staff required and therefore the total academic staff cost of the course was thus directly related to the number of meetings. We next divided the number of meetings at each level of enrolment by the number of students to obtain the number of meetings provided per student and therefore the academic staff cost per student.

Figure 1 shows the proportionate change in academic staff per student as enrolment increases on the Civil Engineering course from its present annual intake of sixty-six. For convenience it is expressed in index form with the value at the present enrolment equal to 100. We term this the Staff Cost Index.

Figure 1: Academic staff cost per student

Civil Engineering Course



For all the nine courses studied the Staff Cost Index exhibits the same form - falling as enrolment increases, but with periodic upward jumps corresponding to those levels of enrolment at which a series of teaching meetings must be duplicated because a laboratory class, seminar or tutorial reaches the maxima designated by the professors involved. The rate of fall, the points at which the jumps occur and the size of the jumps, vary from course to course, but the pattern is similar. The moral is clear - if expansion is to occur it should be to a level of enrolment corresponding to a "trough" rather than a "peak" on the Staff Cost Index.

It seems that, for nine courses examined, the per student cost of providing teaching staff falls by a minimum of 18 per cent and a maximum of 48 per cent when enrolment is increased to the "trough" nearest to twice the present number. This saving in staff cost may be achieved without increasing the number of hours per week which each staff member teaches, or reducing the number of hours of instruction which each student receives. This may be done in spite of the fact that the size of seminars, tutorials and laboratory classes are held at a level which professors or their representatives think reasonable. In other words, these economies arise from expanding numbers in lectures where direct student-teacher exchanges do not normally take place. The average saving in total cost per student achieved by a carefully chosen approximate doubling of numbers, whilst maintaining existing course structures, is 7.7 per cent through savings in staff costs alone. This is a considerably greater figure than the savings obtained by any "reasonable" alteration of course structures at the present level of enrolment. It implies that the overall U.K. weighted staff: student ratio could fall from its recent level of 1: 11 to 1: 16 without any apparent increase in teaching duties per staff member or deterioration in quality of instruction if the situation at Bradford is representative.

We believe that serious study should be given to assessing the staff requirements for the proposed increase in student numbers on the basis of the number of additional teaching meetings generated, instead of by using a staff:student ratio. It would appear from our research that expansion accompanied by a constant staff:student ratio and unchanged course structures would mean a reduction in the average weekly teaching load of staff.

There also appears to have been a good deal of overbuilding at the University of Bradford in recent years. The current situation in the courses we examined is that teaching is taking place in laboratories for only 41 per cent of a thirty-two hour basic teaching week, and classrooms are in use for only 52 per cent of the time. Furthermore, in most Schools of Study the teaching week consists of only thirty-three weeks a year.

In the majority of the Schools studied, an increase in enrolment sufficient to bring laboratory use up to 80 per cent of a thirty-two hour week would reduce total costs per student by between 7 and 19 per cent. If this 80 per cent utilisation were extended to a 60 hour week, the total cost per student could be reduced by 10 to 34 per cent of the present cost.

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[1] These conclusions are supported by the fact that teaching costs per student are inversely correlated with student numbers on existing courses at the University of Bradford.

Table 2 shows the reduction in cost per student with successive increases in laboratory utilisation in each of five course investigated.

Table 2: Reduction in Total Cost-per-Student in Relation to Increased Laboratory Utilisation

% Laboratory Utilisation and length of teaching week	Pharmacy		Colour Chemistry		Electrical Eng.		Applied Biology		Applied Physics	
	Total Cost per Student	% of Existing Cost	£	%	£	%	£	%	£	%
EXISTING	£3294		3918		3603		3110		3682	
60% @ 32 hrs.	2957	90	2802	71	3151	87	2999	96	3275	89
70% @ 32 hrs.	2777	84	2737	70	3054	85	2917	94	3215	87
80% @ 32 hrs.	2671	81	2694	69	2994	83	2885	93	3131	85
80% @ 40 hrs.	2593	79	2649	68	2938	81	2837	91	3083	84
80% @ 50 hrs.	2536	77	2613	67	2898	80	2816	90	3039	82
80% @ 60 hrs.	2497	76	2586	66	2878	80	2801	90	3023	82

However, there are a good many practical problems involved in timetabling, setting up experiments and inducing academic staff to work outside the normal working week, even though the objections of the latter might be met by some supplement to salary provided out of productivity savings. Furthermore, the increases in student numbers required to achieve such levels of utilisation are considerably in excess of anything at present envisaged for the University of Bradford.

But in spite of the above reservations with regard to enrolment, we went on to analyse the use of classrooms and lecture theatres in the so-called Main Building of the University. This building is our largest and the level of its utilisation is greater than for the University's buildings as a whole. Nevertheless, its classrooms and lecture theatres were only occupied on average for 55.3 per cent of a 32 hour week. Even when its rooms were in use, only 52.0 per cent of available seats were occupied.

It is evident that considerable economies in cost per student year could be obtained if building design and timing were more closely related to academic plans.

Conclusions

It seems probable that the level of resource utilisation at the University of Bradford is not greatly different from that of the British University system as a whole. There is therefore considerable potential for cost economies of scale in the University sector of higher education. Other countries may learn from this situation. One large university

department can be a good deal more economic than several small ones, and building plans should be co-ordinated with academic plans to that the available space fits student numbers and requirements more like a glove than a sack.

We will do our best to share our experience in these matters with anyone who cares to contact us.

WHO PAYS FOR ADULT EDUCATION IN KENYA?

Dorothy Thomas
University of Nairobi

Summary

Reference: Not Listed.

This study was requested by the Kenyan Board of Adult Education in order to obtain information required by the Board for its proper functioning. The following objectives were set up:

1) to identify the major institutions providing educational opportunities for adults and to determine their annual recurrent expenditure for adult education.

2) to provide a comparative basis for study of the financial provision for different adult "students" groups.

3) to indicate the relative costs of residential forms of adult education as against non-residential forms

4) to identify sources of income for adult education-providing bodies

5) to give some indication of the scale of past financial provision as a measure of its growth

6) to describe and assess the importance of adult student fee-payment

7) to indicate major problems involving finance which face providing bodies and to recommend, where appropriate, possible solutions to these problems.

8) to attempt to determine the approximate expenditure per head on the education of the overall adult population.

Most of the data for this study were obtained from interviews with 164 staff members of ministries and organisations providing adult education centres.

Report

Scope of the Study

The difinition of adult education used in this study was basically that in the Act which established the Board of Adult Education in Kenya* which states that:

"adult education' means the full-time or part-time education or instruction of any kind provided for any person over the age of sixteen who is not in full-time attendance at any primary, intermediate or secondary school or at the Kenya School of Law or at any university college(except to the extent that any department, institute or faculty at such university or university college is devoted to adult education) and includes education by correspondence, education by means of mass communication, and the education use of libraries, museums, exhibitions and other means of visual or auditory communication ".

The only variation was that in some instances people under the age of sixteen were included when they were taking part in a vocational training activity which might include students between the ages of 14 and 28.

Not included in the study were private commercial, correspondence, technical and secretarial schools.

A distinction is made between "direct" adult education which is organised and directed towards specific adult groups or individuals, and "indirect" adult education which an adult pursues largely on his own, such as through radio, televison, news services, libraries and museums.

Indentification of Adult Education Providing Organisations and Statement of their Expenditures

Tables I and II of this study list the organisations providing adult education in Kenya and their estimated annual recurrent expenditures for adult education 1970/71. These include adult education activities conducted by Ministries, Local Government Councils, the East African Community, voluntary organisations, and private employers. Part II of the study contains a description of the activities of each Ministry and organisation providing adult education, including their estimated annual recurrent expenditures, sources of income, and sources of information for this study.

Almost six and one-half million Kenya pounds (K£6½ M) were spent for annual recurrent expenditures on direct adult education in Kenya in the financial year 1970/71, (16, 401, 115). Approximately one-half million pounds (433, 116) were spent on indirect adult education in the same year The estimated expenditure for both direct and indirect adult education was £6,834,231. In addition to this amount, foreign donors spent approximately £1,372,000 for experts and volunteers working in adult education. (Their grants of money are included in the expenditures of the Ministry to which they were given).

*The Board of Adult Education Act, 1966, No.1 of 1966, Date of Assent: 24th February, 1966.

Sources of Income

Government is the source of most of the income for adult education in Kenya, contributing 83. 1% of the total recurrent costs. This figure includes the Kenya Government's contribution (76.4%), the Kenya government's contributions the East African Community (6.0%) and .7% from local government authorities.

Private employers furnish approximately 6.2% of the income for adult education, and foreign aid 4%. Sale of products (farm and handicraft) make up 2.9% of total income, and Licensing and Sale of Time on Radio and TV, 0.5%. Local fund-raising and members contributions furnish 1.0%. Fees from students or their sponsors, often thought to be a significant source of income for adult education, were shown to represent only approximately 2.3% of the total. Even this figure usually represents "estimated income from fees", and spot-checks revealed that the actual income received may be only 50% of that anticipated. Suggestions have been made that fees should support a larger share of the costs of adult education, but on the other hand there is some evidence that increasing fees may keep out adults who need the education offered, and may actually result in both a decrease in fees collected and in failure to reach many people for whom programmes are designed.

Provision for Different Adult Student Groups

Approximately 62.6% of the total estimated annual recurrent expenditure for adult education in Kenya 1970/71 went towards vocation-oriented training. Pre-service and in-service training took 50.1% of the total, young adults learning skills to qualify for work 9.8%, and training for management and operation of businesses (mostly small) 2.7%.

In addition, several of the other categories have a vocation-oriented motivation. "Improvement in health, agriculture, homes and communities", accounting for 26.4% of the total expenditures, includes a significant amount of training for better farming.

Literacy classes, (reading, writing and numbers) account for only 1.6% of the total expenditures, somewhat surprising to those who regard literacy teaching and adult education as synonymous. Formal schooling substitute and preparation for examinations represent 1.6% of the total expenditures, and self education including improved general knowledge makes up the remaining 7.8%.

Relative Cost of Residential Adult Education as Against Non-Residential

From a review of expenditures in a sample of residential adult education centres, it appears that boarding costs add from 29% to 45% to the total cost of operating the centre. However, cost is only one factor to be considered in deciding whether to have residential centres. Of equal importance are such items as geographical area to be served, population density, optimum teaching and learning conditions, and the feasibility for students to be away from home and work for a residential course.

Scale of Past Provision

A study of past provision for adult education was difficult because of lack of records. However, some identifiable figures could be obtained from

estimates of government grants for recurrent expenditures for adult education for the years 1968/69, 1969/70 and 1970/71 and a steady, but not spectacular, increase was shown.

Per Capita Expenditure for Adult Education

Based on figures from the Kenya Population Census, 1969, and on estimated recurrent expenditures for adult education in Kenya 1970/71, the estimated per capita expenditure for all forms of adult education was approximately twenty shillings and twenty cents. Excluding indirect adult education, the estimated per capital expenditure was twenty shillings and eighteen cents.

The estimated per capita expenditure for education for young people was approximately sixty Kenya shillings and ten cents.

Major Problems Involving Finance

As might be expected, one of the major problems was lack of sufficient money. This was brought out particularly in connection with need for transport for organising and supervising adult activities in rural areas. Similarly, many adult education programmes can be carried out in only limited areas of the country, due to lack of finance. Insufficient money also hinders the provision of necessary teaching materials and adequate compensation for the many part-time teachers of adults. Courses have had to be cancelled because of lack of money and financial pressures also are reported to prevent adequate field work for effective planning and follow-up.

Another problem involving finance is the general lack of understanding of the importance of adult education and the contributions it can make to national development. Also, insufficient records and the mingling of funds in Estimates make it difficult to calculate expenditures for adult education.

Recommendations

Included in the seventeen recommendations made at the conclusion of this study are the following:

1) Government and educators should regard "education" as a continuing, integrated and life-long process and should plan on that basis.

2) Adult educators should make more vigorous efforts to convince Government of the specific economic and social benefits of adult education.

3) The question of payment of fees by adult participants should be studied to determine whether the fee requirement is uneconomic and whether it prevents some people from taking part in adult education activities.

4) Continuing evaluation of adult education programmes should be encouraged to determine to what extent they are meeting their objectives. (Such evaluation has important implications for financing).

5) Government Ministries and departments which do not at present have a specific Vote for training should be encouraged to do so. Also, training activities should be identifiable in accounts.

6) The Board of Adult Education should be strengthened in terms of financing and additional staff in order that it may be able to carry out the responsibilities assigned to it in the Act of Parliament by which it was established.

RESEARCH IN THE UNIVERSITY OF KEELE

INSTITUTE OF EDUCATION

Godfrey N. Brown
University of Keele. Institute of Education

Summary

Reference: Not yet listed in the Commonwealth Research Register

Research in this institution tends (as in the third world) to be oriented to development, hence, it is directed to teaching programmes, and concerned with administration of teachers' pre-service and in-service courses within the Area Training Organisation. Increasingly it is internationally oriented. Keele has carried out research in areas such as -

a) "Integrated studies" - a project which highlighted the co-operative use of subjects and co-operation between teachers to make this possible.

b) An assessment of Teachers' vacation courses.

It is hoping to mount a project in world studies on teacher education curricula, and embark upon a training, and pilot study in the use of guided self analysis for teachers. Out of studies like these have developed other and related studies. The main concentration, however, is on teacher education.

Report

Research in the Keele Institute of Education as in the 'Third World' tends to be 'development oriented'. It arises from, and contributes to the teaching programmes being undertaken, and the concern of the Institute with the overall administration of teachers' pre-service and in-service courses within the Area Training Organisation. Increasingly the work has reflected an international orientation.

All of these characteristics of the Keele Institute's research programme are exemplified by the Keele Integrated Studies Project which for the past four and a half years has been financed by the Schools Council. Under the direction of David Bolam, the team comprised an assistant director and four co-ordinators supported by the local authorities of Cheshire, Shropshire Staffordshire and Stoke-on-Trent. Additionally, overseas fellows supported by the Ministry of Overseas Development joined the team for a year at a time: two from Ghana, one from Kenya and two from Nigeria.

"Integrated Studies" was essentially the development of Lord Lindsay's ideas of the relatedness of subject disciplines as exemplified in Keele's well-known Foundation Year course. The team saw this development as meaning "the exploration of any theme, area or problem which requires the help of more than one school subject for its full understanding, and the interest of more than one teacher in achieving this." It followed,of course, that the Project was concerned with "the co-operative use of subjects and co-operation between teachers to make this possible". (1)

The Project developed a number of themes illustrating possible approaches to integration and prepared "packs" of materials for each theme. These were intended to be used across the ability range with pupils aged 11 to 16. For the more junior forms three packs were developed: 'Exploration Man', 'Communicating With Others' and 'Living Together'. These have now all been published by Oxford University Press. For more senior pupils three further packs are being prepared: 'Development in West Africa', 'Groups in Society' and 'Man Made Man'.

All of the materials developed were put on trial for two school years from September 1969 to July 1972 in 36 schools within the area of the four local educational authorities supporting the project. Secondary modern, grammar and comprehensive schools were all involved. Now with the publication of curriculum materials including books, pamphlets, illustrations, slides and tapes, the implications of Integrated Studies in terms of team teaching, time-tabling, and the banking of resources are being widely explored by schools in the U.K. There are many indications that the Project which has cost something of the order of £100,000 is likely to make a significant contribution to curriculum innovation in schools.

Arrangements are now being made to extend the field of operations to (a) the colleges of education of the Keele Institute and (b) to institutions of teacher education overseas. Integrated curriculum studies have now become main courses of study in two Keele colleges: Crewe and Madeley Colleges of Education.(2) Thus,in the University, the colleges and the schools there is co-operation in promoting the development of a subject which has its raison d'etre the development of co-operation. It is now necessary that this work should be extended at an international level and this involves another element in the overall research programme - co-operation with counterpart institutions overseas.

In the summer of 1970 Mr. Sam Moore of the Overseas Development Administration of the Ministry of Foreign and Commonwealth Affairs and the Director of Keele's Institute of Education carried out an assessment of the Teachers Vacation Courses held in West Africa under the auspices of ODA, the British Council and the Ministries of Education in the Federal Republic of Cameroon, Ghana, Nigeria and Togo.(3) As part of this assessment 765 questionnares were returned by participants, representing a response rate of 84 per cent. Of these respondents 86 per cent found that the course that they had attended was "very valuable". Notwithstanding this very favourable response, the assessment showed the need to plan teacher vacation courses on a more long-term, less ad hoc basis. "The kind of scheme that might be contemplated would be to plan units consisting of 3 one-month vacation courses held in successive summers, with tuition correspondence undertaken in the intervals between courses". It was further suggested that "links" such as that pioneered by the University of Durham with Lesotho should be promoted.

The Keele Institute of Education has now negotiated such a link with the Faculty of Education of the University of Cape Coast. As a result of this link staff from both institutions will undertake a course for training college tutors in Ghana in August 1972. This will take as its theme the organisation, supervision and evaluation of 'teaching practice. This, however, is seen only as the beginning of a form of co-operation that is likely to embrace curriculum research on the lines of the Integrated Studies Project. Here the advantages of inter-cultural research, particulaly on such a theme as "Development in West Africa", are likely to be exemplified.

The Keele Institute has some experience of this co-operation in research as a result of a pattern of a course that it has organised for overseas students taking its Diploma in the Advanced Study of Education. This involves such students (usually very experienced, well qualified teachers) spending a year at Keele updating their knowledge of various Education disciplines and being introduced to research procedures. They then return to their own countries and prepare a dissertation which is jointly supervised by Keele and a university in the country of the student concerned.(4) Thus it is possible for Diploma students to relate directly the knowledge and skills that they have acquired at Keele to a specific problem in their own country.

In international research on teacher education curricula it is hoped to mount a project in World Studies in which the Keele Institute will be linked with Teachers' College, Columbia University,and the Faculty of Education of theUniversity of Ibadan. In this context World Studies will take as its basic unit of study the world seen as a global entity. This involves the inter-disciplinary study of the problems of world order. It has a time dimension exemplified in development studies, and a space dimension in comparative studies. It is made possible by global data now made available by the United Nations, its specialized agencies and other international organisations. These data need to be incorporated in programmes of teacher education as a matter of world welfare.

Additionally, the Keele Institute is hoping to embark upon a Training and Pilot Study in the use of Guided Self Analysis for Teachers.(5) This involves the individual teacher in analysing a video-tape of his classroom behaviour and the use of schedules devised by Professor Theodore Parsons, Director of the Institute of Applied Anthropology in the University of California at Berkeley, who has kindly agreed to co-operate with the Keele Institute.

Space does not permit more than a sketch of other research work with which the Keele Institute is involved, but most of this has been conceived within the research and development strategy outlined. There has been considerable concentration on teacher education. Thus one research project undertaken by Dr. E.P. Duggan and sponsored by the Department of Education and Science has investigated(6) the choice of work area by teachers. It showed that in the six areas investigated teachers based in industrial regions tended to go to colleges of education within 50 miles of their homes, whereas graduate teachers (82%) went to universities outside this limit. The majority of teachers from industrial localities returned to them to teach whereas a smaller proportion did so from rural areas. Another project also undertaken by Dr. E.P.Duggan under DES sponsorship has compared concurrent and consecutive courses of Education Studies in teacher preparation and drawn up profiles of the kind of person who is involved in these two forms of professional preparation. The conclusions of this research

emphasise the difficulties involved in this comparative investigation and show that claims for the superiority of either concurrent or consecutive training need to be treated with great caution. A further research project under the same authorship and sponsorship has investigated the advantages of a modified college year designed to make maximum use of 'plant' and increase the output of teachers by 50 per cent.(8) The findings of this project are of considerable significance at a time when the demand for higher education is at an all-time high and there is need to satisfy this demand as economically as possible.

Another research project under grant from the Social Sciences Research Council has investigated the work assignments of trained counsellors in secondary schools. Along with the University of Reading, Keele has pioneered the training of school counsellors in the U.K. and this research project has been of great value in enabling the Institute to respond to demonstrated needs of schools and make good some deficiencies in their training programme (e.g. in respect of handling emotional disturbances in adolescence).

Finally, in the University Department of Education, one of the constituent bodies of the Keele Institute the DES is sponsoring a study of the structure and function of the Youth Service in England and Wales(9) and the Schools Council is sponsoring a research and development study of design and craft education(10) with special reference to the needs of older secondary pupils. Both projects are directed by Professor J.S.Eggleston. The University Department of Education is also carrying out an evaluation study of the Schools Council "Project Technology".(11)

A short article can only give an indication of the research that is going forward but perhaps enough has been said to indicate the commitment to the proposition that "if the Keele Area Training Organisation is to function as an effective Learning Community, a carefully conceived and publicised programme of research and development is essential". 12

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(3) Summaries of the resulting report will be found in the Conference Report of the Renth Overseas Tutors Conference held at University College Cardiff, April 6-8 1971, pp.3-10 and in the Commonwealth Education Liaison Committee News Letter Vol. III No. 2 pp. 1-2.

(4) Examples are: Ng Lian Timn (Andrew): Education and Ethnic Problems in Singapore 1969; S.A.Shabbar Kazmi: The Development and Reconstruction of the Social Studies Curriculum for the Secondary Schools of West Pakistan; G.O. Falade: 'An Assessment of the Potential Relevance of Keele-type "Integrated Studies" to the School Curriculum and Educational System of the Western State of Nigeria'.

(5) See T.W. Parsons: Professional Development Systems Materials.

(6) See E.P. Duggan and W.A.C. Stewart: The Choice of Work.

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EDUCATIONAL RESEARCH IN EAST AFRICA

Hamed el Abd
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Summary

Reference: Vol.3 (1970-71) J5 (p.131-132)
C4 (p.24)
E12 (p.51-52)

Educational psychology research in East Africa is still in its infancy, but already some useful pieces of research have been conducted in the Psychology Department of the Makerere University, Kampala, Uganda, which may be of interest to educationists in developing countries and elsewhere.

During the period 1965-1971 studies in 5 areas were undertaken, viz,

* Intelligence and Intelligence Testing

* School Discipline and Strikes

Attitudes towards Teaching

Personality Factors

Behavioural Development

The first two studies* are described here.

Report

Study 1 : Intelligence and Intelligence Testing

The study was concerned with three main areas: (i) the concept of general intelligence in East Africa, (ii) the construction and application of general intelligence tests, and (iii) the structure of intellect of East African students.

The concept of general intelligence in East Africa presented far-reaching problems in a developing country. First, typical existing Western tests of general intelligence applied in Africa tended to penalize testees for whom English language was not the mothern tongue. Second, psychological concepts such as intelligence, and personality were given interpretation essentially Western in nature, to a large extent lacking direct equivalents in most African cultures. Two studies were carried out to this effect. The first study dealt with the application of the Otis Higher Examination. In March 1966, 19 British and 18 East African (E.A.) postgraduate students sat the Otis Higher Examination, Form B. The differences between British and E.A. students scores were found to be highly significant. Because the number of each group had been small, it was then decided to repeat the experiment

with larger groups of diploma students. This took place in October 1966. 50 British and 30 E.A. diploma students sat Form A, the equivalent to Form B. Analysis of the differences between British and E.A. Students confirmed the early results. A further analysis was conducted to investigate the psychological factors which hindered local students from doing well on the Otis test, i.e. in comparison with the English students. Items which differentiated widely between the two groups of students were categorized into three categories each of which reflected a psychological factor. These were: verbal comprehension, verbal implication and verbal reasoning factors.

The second study dealt with the qualities of the clever person in East African societies. Over two years 1967 and 1968, 67 E.A. Education students were asked to write an essay on the important factors which made the person clever in his society. Since the term "intelligent" had no direct translation into the African vernacular, the word "clever" was substituted. Two members of staff, including the writer, analysed the contents of the essays. The analysis resulted in fourteen categories constituting the concept of cleverness, capability or brightness in East Africa. The fourteen categories with the average percentage for each individual category were: Economic status (8.3% of the total responses), wisdom (18.3%), vocational efficiency (9.3%), professional position (2.5%), hereditary status (2.9%), personal qualities (9.2%), problem solving (11.2%), leadership (6.7%), physical superiority (3.4%), spiritual superiority (3.5%), creativity and originality (4.0%), social and family status (12.4%), story telling (4.3%), and aging (2.8%). The East African concept of intelligence appeared to be different in meaning from Western intelligence, though wisdom, problem-solving and creativity constituted a third of its content. The implication of these studies was that general verbal intelligence tests were not irrelevant, despite the fact the construction of tests reflecting the global capacity of the African individual might seem appropriate.

The construction and application of general intelligence tests.

In 1952 Mr. Y.K. Lule designed a multi-racial non-verbal intelligence test. The test in its original form had no norms; so the writer revised the test during 1966 and 1967. The revision of the test was based on a group of 1633 Primary and Junior Secondary pupils. It included 80 items distributed on six sub-tests: Doesn't belong, analogies, number series, touching blocks, relationships, and pattern completion. An estimate of the predictive validity of the Lule tests was obtained using the aggregate score on the primary leaving examination in Uganda. It was found to be.60. The reliability of the test equalled .90 and it was based on the odd-even method. Applying the test to different racial groups, it was found that the West-European child led the Asian child by three marks out of 80, i.e., half the standard deviation, and the Asian child led the Uganda child by one standard deviation. But this was due to the fact that the African child was deprived of the material wealth that would enable him to manipulate objects in space, classify them or reconstruct the parts of say, a mechanical toy. There were also some other factors which militated against the African good performance, such as, malnutrition, illnesses, irregularity of school attendance etc. Therefore in case of comparing an Asian child with an African child three marks should be deducted from the Asian child to make possible comparison in terms of the norms concerned.

The author developed a test entitled "General Verbal Ability Tests." It consisted of two equivalent forms and each form contained sixty-five items. The content of the test included direction items, word vocabulary, always has, letter series, mixed sentences, analogies, sentence completion, rearranging

words in alphabetical order or sentences in meaningful order, number series, anagrams, classification, mathematical operations, and word opposites. Test-norms were built using 567 Ugandan and Kenyan pupils. The general verbal intelligence test possessed reasonable reliability with an average of .84 ranging from .73 to .95 for Form A, and .85 ranging from .75 to .95 for Form B. Its correlation with the Lule non-verbal tests was found to be .61. Percentile norms were available for primary seven, secondary one and two. The Lule non-verbal intelligence tests and the writer's general verbal ability tests were supposed to measure the African pupils general reasoning abilities. The general purpose of both or either tests was to provide teachers with an estimate of the general mental ability level of the school child. Other purposes of applying the tests included: grouping pupils in a way that facilitated individual advice, and classifying them in terms of brightness for group work.

The Structure of intellect of E. A. Students:

In 1966 the writer put forward the hypothesis that "An American test battery representing various psychological factors already known when analysed in terms of E. A. undergraduates responses would exhibit a factor structure similar to that observed in Western cultures." Eleven tests representing five mental abilities were administered to a small group of students at the Makerere Faculty of Education. The rotated factor matrix yielded the five above abilities in addition to g, a result which sustained the hypothesis. Another study was conducted to investigate the validity of the earlier findings and to test the assumption that "The structure of intellect is independent of race or religion and dependent on education and experience." Fourteen tests were selected to represent seven mental abilities using two large samples of students. All seven factors were indentified in both samples. Multivariate Behavioural Research, 1970, 5. H. el Abd.

Study 11: School Indiscipline and Strikes

Twenty-three times over fifteen years the education of hundreds of Ugandan school students has been disrupted by the so-called students' strikes or outbreaks. Teachers and educationists involved in the task of nation-building are entitled to know why. Two studies were carried out by the writer to uncover the causes of such outbreaks. In the first study a questionnaire on "School Discipline Investigation" was constructed and sent to 100 secondary institutions in Uganda. Its content dealt with the reactions of principals and headmasters towards discipline problems in their schools. Eighty completed forms were returned and items were analysed in terms of the percentages of responses. More than 50% of the headmasters reported no occurrence of strikes in their school. Of those who did report strikes the highest frequency (g) was in 1965. The declared grievances included bad student-staff relationships (35%), generally poor school facilities (25%), and bad teaching (15%). The most difficult group of students seemed to be S3. The ten problems that caused concern to headmasters in the schools were, in the order of seriousness: drunknness, untidiness, untruthfulness, stealing, careless work, laziness, tardiness, disobedience, selfishness, and lack of interest. The Headmasters identified three main reasons which seemed to be of equal importance in giving rise to school indiscipline. The reasons were (a) poor staff/student relationship and students' desire for more responsibility, power and freedon (b) poor staffing, shortage of experienced teachers and students' demands for better school facilities, and (c) inappropriate administration and students' dissatisfaction with school rules. To avoid school strikes entailed (a)

improvement in staff/student/administration relationships and (b) development of healthy attitudes in students towards communication with school authorities. In dealing with strikes, 36% of the headmasters suggested firm punitive action (suspension, expulsion, closure of school), and 26% suggested using outside help to put down the strike (parents, policemen). Only 8% suggested discussing the discipline problems with the students. In the second study a questionnaire entitled "Students Opinions on School Strikes" was constructed and administered to 419 secondary and teacher training college students. The students were asked to give reasons for the strikes they had participated in. The most frequent responses were (a) unfair rules and punishment (41%),(b) lack of facilities (23%) and (c) bad food (17%). When each student was asked what he would have done to prevent strikes, if he had been the headmaster, they gave the following responses (a) meeting demands (44%), (b) discussing the problem with the students (42%), and (c) punishment (7%). It was noted that a large number of the students recommended discussing the discipline problems with the authorities in contrast to the very small number of headmasters who recommended the same.

Four studies were also completed on "Construction and application of discipline scales". Apart from the first study on the construction of two comparable scales, each consisting of forty school and home situations, the second study was concerned with the factor analysis of these two scales. One of the factors could be indentified with what was known as self-descipline. Another factor was related to school versus out-of-school discipline. The third study dealt with the construction of a culture fair discipline scale consisting of forty statements. The statements represented a series of opinions and attitudes of teachers and writers ranging from consideration of discipline as education to consideration of discipline as punishment. The fourth study related to the construction of a British discipline scale involving 24 statements. Both scales were devised using original statements collected from various books, articles and literature on discipline.

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By Hamid el Abd -

School Discipline, Teachers' Attitudes, Programmed

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MEASUREMENT OF THE 'GOODNESS OF FIT' OF RASCH'S PROBABILISTIC MODEL OF ITEM ANALYSIS TO OBJECTIVE ACHIEVEMENT TESTS OF THE WEST AFRICAN SCHOOL CERTIFICATE EXAMINATION

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Summary

Reference: Not listed (see *)

Rasch's Model, based on the assumption of equal item discriminating powers, was measured by the probability that the deviation of the data from the expectation was more extreme than the observed deviation. The model was found to fit a number of test items of each test - Maths, Geography, Biology, English. The index of item discrimination was taken as the slope of the item characteristic curve at the point where the probability of correct response was 0.50, and the discrimination indices of items that fit the model were found to be unequal lying in the range of 0.50 - 1.25. Person free item calibration was investigated by sampling, and person free item per se (without reference to the item parameters) was found feasible.

Person free calibration of item parameters was not attained.

Item free person measurement was not achieved.

Report*

The Rasch model of item analysis assumes that the probability that a person answers an item correctly depends only on the easiness of the item and the ability of the person with respect to the kind of items, and measures item easiness and person ability simultaneously on a ratio scale. It is equivalent to the logistic test model under the assumption of equal item discriminating powers. The Rasch model claims person-free item calibration and item-free person measurement.

This study sought to (a) measure the fit of the model to high school achievement test items, (b) find to what extent the items that fit the model have equal item discriminations, (c) investigate the invariance claims, and (d) find to what extent each achievement test measures a unidimensional trait.

The fit of the model to each item was measured by the probability that the deviation of the data from the expectation of the model was as extreme or more extreme than the observed deviation. Items with probability greater than 0.01 were selected. The model was found to fit a fairly good number of the items of each test - mathematics, geography biology, and English.

The discrimination indices of items that fit the model were found to be quite unequal, many of them lying in the range 0.50 - 1.25. The index of item discrimination was taken as the slope of the item characteristic curve at the point where the probability of correct response was 0.50.

The claim of person-free item calibration was investigated in two steps. First, for each test, the number of selected items common to three samples (whole sample, top sample, bottom sample) was expressed as a percentage of the number of items selected for the whole sample. These percentages were quite high. Secondly, top sample item easiness was plotted against bottom sample item easiness. The points tended to form a "fan pattern" having its apex near the origin.

The claim of item-free person measurement was also investigated. The abilities of the same group of persons were measured by a hard test and an easy test composed of items selected by the model. A plot of hard test ability against easy test ability showed that the points tended to form "fan pattern" also.

Each of the achievement tests was found to have high internal consistency coefficient. Also, for each achievement test, a new test composed of items selected from the original test by the Rasch model had nearly the same internal consistency coefficient (corrected for length of original test) as the original test.

The conclusions of this research were as follows:

(a) The Rasch model could fit achievement test items in the usual academic disciplines of the high school; it could select the items without altering appreciably the internal consistency of the tests.

(b) The Rasch model, despite the assumption of equal item discriminations, would select items whose discrimination indices might be unequal.

(c) Person-free item selection per se (without reference to the item parameters) was feasible, using the Rasch model.

(d) Person free calibration of item parameters was not attained.

(e) Item-free person measurement was not achieved.

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* A reprint from Dissertation Abstracts International Vol. XXXII, Number 8, 1972, submitted by the author.

USE OF OBJECTIVE TEST MATERIALS TO IDENTIFY MALE PUPILS FOR THE TECHNICAL COURSE OFFERED IN CERTAIN MALAWIAN SECONDARY SCHOOLS

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Summary

Reference: Vol.3 (1970-71) C11 (p.28-30)

Malawi Government Development Plan 1965-69 recognised the need for technically trained personnel essential to the development of the country and allocated 63 per cent of its education vote specifically for secondary and technical education at secondary level. The total number of pupils engaged in technical and craft courses were to be increased from 250 in 1969 to 3384 in 1974.

Only 15 per cent of pupils who completed the primary school leaving examination gained places in secondary schools. Not all secondary schools offered technical courses, and not all students, who enter those that did, followed a technical course. The need for a selection device to prevent wastage at every stage of education was urgent.

This study developed a battery of tests to identify pupils for technical courses. The battery was standardised and subjected to tests of reliability and predictive validity.

Report

The acute shortage of trained manpower for the technical and craft sectors is a serious handicap to the economic development of Malawi (Brown 1967, Malawi Government 1969). Individuals who ultimately form the middle and high level technical manpower groups have been under-produced and could only be produced via the State Education System (Plowden 1964). It is obvious and vital to the needs of the country that the best possible results be obtained from the technical courses that are in operation (Hahn 1964).

The recognition of the urgent need for skilled manpower which can only be produced by the State Education System, and which is essential to the development of the country, was evident in the Malawi Government Development Plan 1965-1969. Within this Development Plan 63 per cent of the total expenditure on education was to be used for the expansion of secondary schools and technical education at a secondary level. (Malawi

Government 1965); secondary technical education was to be available for those who showed aptitude for it (Malawi Government 1966). (However, at this time no guide was available as to how such aptitude should be identified). An attempt to provide a source from which trained manpower possessing a technical background could develop was initated in May 1967 (Malawi Government 1967). The scheme, supported by the International Development Association (IDA), aims to provide additional facilities and technical courses within certain secondary schools. The total number of pupils engaged in such courses (woodwork, metal work and technical drawing) is to be increased from approximately 250 in 1969 to a target of 3380 in 1974 (Malawi Government 1967). This increase in enrolment in secondary schools, and in technical courses in particular, is considered to be the minimum necessary to meet the anticipated demand from the public and private sectors. Future manpower requirements are now under study with a view to provide the Ministry of Education with definite information on which to base future plans for the expansion of both secondary and secondary technical education (Malawi Government 1971). However, even this great improvement still means that the majority of pupils in secondary school and eligible for these technical courses will not be able to benefit from them, since only twelve of the fifty-seven secondary schools currently have technical departments.

Competition for entry into secondary school is fierce, only 15 per cent of those who complete the Primary School Leaving Examination are able to gain a place in Secondary School (Malawi Government 1970). This selection is based on the Primary School Leaving Examination Results which may not be the best selection device for identifying those individuals who are best able to benefit from the technical courses that are offered. It is possible that potential engineers, technicians, and craftsmen are lost to the country because the Primary School Leaving Examination does not identify the particular talents that these people possess. Furthermore, only 12 schools offer technical courses, so it is possible for an individual, while gaining entry to secondary school, not to have the chance to follow technical courses. Even within the school that does have technical facilities it is possible that not all pupils at the school will follow these courses, and that not all those selected for such courses will be those most likely to profit from such instruction. It is obvious that some selection procedure for identifying those male pupils who are best able to benefit from the technical courses offered be initiated. This would decrease the tragic waste of talent, finance, and time which the country cannot afford.

The construction and development of test material in the African context, for use on an Inter-African basis, was undertaken by a team of American Institutes for Research (A.I.R.) specialists working in Nigeria (Schwarz 1961, 1962). After exhaustive studies twenty one tests were finalised, made ready for large scale use, and termed ID Tests. From this comprehensive battery tests could be combined in a smaller battery for the prediction of specific aptitudes (Schwarz 1964, 1964b). The tests had been designed to cover a wide range of ability from upper primary school to late secondary school. A battery for the prediction of technical aptitude was among the first to be developed (American Institutes for Research 1962), and later shown to be applicable in African States other than Nigeria (Schwarz 1963, Irvine 1963). Selected ID Tests were included in the Northern Rhodesia Mental Ability Survey (MacArthur, Irvine and Brimble 1964) with other test material, and demonstrated their potential in predicting success in technical courses. In a survey of the feasibility of testing in Malawi (Nichols 1965) the ID Tests were again used, validity studies conducted with the instruments against performance in technical courses, and the usefulness

of the instruments reinforced. Attempts in East and Central Africa to combine and contrast objective test material with more traditional measures of ability (a broad National Examination), in an attempt to select those most able for secondary school courses, have been made (Irvine 1964, Silvey 1964); and while these investigations were mainly concerned with entry into the general secondary school course, the procedures and methods used are of value and a guide to the production of a device for selection into specific courses. However, a preliminary investigation conducted in 1970 to identify the procedures used to select pupils at a Standard 8 - Form 1 level for technical courses, in East and Central Africa, revealed that none were in operation. The need for a selection device to identify male Malawian pupils, at a Standard 8 - Form 1 level, who are most likely to succeed in the technical courses offered in certain Malawian secondary schools,was urgent. Consequently,a research programme was structured to use existing test material, combined in a battery, to meet the immediate needs of the country. The preliminary investigations had revealed that this approach was likely to have value and could assist present selection methods. The adaptation of existing test materials would also limit the high cost and lengthy validation period involved in constructing devices specific for Malawi.[1]

The investigation had revealed fifteen tests which showed a logical relationship to technical skills and which had either demonstrated validity and reliability in the African context or which were supposedly culture-fair.

Viz,

1. ID Test No. 2 Verbal Analogies (Low))
2. No. 4 Reading Comprehension (Low))
3. No. 7 Mechanical Information)
4. No. 9 Boxes)
5. No. 10 Figures) (Schwarz 1964a)
6. No. 14 Arithmetic)
7. No. 19 Manual Dexterity)
8. National Foundation for Educational Research in England and Wales.
   Spatial Test 3 (Smith and Lawes 1959)
9. Revised Minnesota Paper Form Board Test
   (Likert and Quasha 1970)
   Educational Testing Service. Tests of Cognitive Factors
10. Identical Pictures
11. Paper Folding
12. Hidden Patterns (French, Ekstrom and Price 1963)
13. Ravens Progressive Matrices (1938)
    (Raven 1960).
14. General Verbal Ability Test (El-Abd 1969)
15. Lule Non-Verbal Intelligence Test (El-Abd 1967).

A majority of these tests were ID Tests, the instructions of which were designed to be as simple and as similar as possible,thus allowing several tests to be used in a battery with a minimum number of changes in the instructions. The words and word patterns in these instructions had been carefully chosen to ensure optimum understanding at all the various ages

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1. It appears that no single aptitude test has been constructed to identify those attributes associated with success in technical subjects. However, the investigation revealed that several separate tests, combined in a battery may offer the researcher a possible solution.

and intelligence levels for which the tests may be used (Schwarz 1964a). A decision was taken to modify the instructions of other tests, where possible, to bring them in line with those of the 1D Tests. Care was taken NOT to risk losing the sense or meaning of the other tests by making all instructions for administration similar. Precise and detailed instructions were prepared for each test, a comparison between these instructions (Lockwood 1972) and those recommended by the publisher will reveal what modifications were made and the minor nature of them. Since the intention was to achieve maximum predictive validity minor modifications to the directions were deemed acceptable. This initial and rather large test battery was administered to a representative sample of 121 Form 1 boys drawn from two urban secondary schools in the Blantyre/ Limbe area as part of a pilot/feasibility project. These pupils were following technical courses similar to those that would be in operation within the country when all centres in the IDA Development Project were fully operational. The predictive validity of the test battery could only be calculated when a criterion was established against which it could be compared. The ultimate criterion is the performance exhibited by an individual in the technical/craft sectors of industry, but the adoption of such a criterion was thought to be unrealistic in this context. For an individual to enter the middle and high level manpower categories he must have completed a formal education, without this it is highly unlikely that he will be considered as eligible. Consequently, the ability of each pupil in technical subjects as indicated by coursework and examination marks obtained in the first year at the secondary school was considered to be the most objective method of assessing performance. If a pupil cannot perform at above the average level within the first year of the secondary school (the validation period) it is unlikely that he will be among those continuing their education in the State Education System. Coursework and examination marks for each pupil in technical subjects were correlated against performance on each aptitude test in the battery.

Every attempt had been made to select a sample which was representative of the population from which it was drawn. It was possible to pool all the data from the classes within a school since there was no significant difference between sample means. However, there was a significant difference between the two schools which prevented all the data within the sample from being combined; each school was treated separately. An inspection of the correlation matrices between performance on the aptitude tests and the criteria established for technical subjects, for the two schools, indicated a general positive and mainly significant relationship. These were further inspected with a view to identify those tests which appeared to be among the better predictors of technical ability. An attempt was made to:-

(a) pick out tests which correlate highly with the criteria but lowly among themselves, since such a combination is the most likely to produce a high multiple correlation coefficient (Sax 1968)

(b) include tests which seem to represent the aptitudes associated with technical ability.

An inspection of the correlation matrices revealed ten tests which appeared to fulfil the two guidelines adopted. These were combined into battery A and a multiple correlation coefficient calculated for each of the criteria variables (beta weights and resultant Multiple R are indicated in Tables 1 and 2). Tables 1 and 2 indicate the standard partial regression coefficient and the multiple regression coefficients for the batteries A and B

for both Chichiri Secondary School and Soche Hill Secondary School. It has been mentioned that the performance on the aptitude tests between the two schools was significantly different, consequently two tables are given. The multiple correlation coefficients calculated for the selected test variables at the two secondary schools were based on a small number of cases. The calculation also took advantage of all the chance variance arising and thus led to a biased estimate of the Multiple R. If the Multiple R calculated was to be used to estimate population parameters the estimate would need correcting for this bias. However, the information obtained in the pilot project was to be used solely as a guide to the suitability of tests for inclusion in a final battery. A comparison of the multiple correlation coefficients in the two tables for batteries A and B indicates that the multiple R is not significantly reduced by reducing the number of test variables in the battery. At Chichiri Secondary School three of the four multiple correlation coefficients rise as a result of reducing the battery. However, at Soche Hill Secondary School the four multiple correlation coefficients dropped a little. But the administrative gains by reducing the battery to eight tests outweighs the statistical gains in having a large battery.

Table 1. Standard Partial Regression Coefficients, Multiple Regression Coefficients, and F-Values for Test and Criteria Variables at Chichiri Secondary School. N=59

		Battery A				Battery B			
		BETA WEIGHTS				BETA WEIGHTS			
No.	TEST	IIIEWW	IIICWW	IIIETD	IIICTD	IIIEWW	IIICWW	IIIETD	IIICTD
1	VAL	.036	.104	-.088	-.004				
2	RDL								
3	MEC	-.305	-.053	.089	-.382	-.317	-.047	.041	-.339
4	BOXES	-.141	-.142	-.012	.075	-.190	-.202	.002	-.124
5	FIG								
6	ARITH	.186	.072	-.070	.152	.193	.158	-.076	.216
7	MAN								
8	SPATIAL	.825	.896	.523	.773	.733	.762	.538	.663
9	MPFBT	-.224	.082	-.110	.069	-.015	.076	-.117	.096
10	ID PIC								
11	PAP FD	.066	-.075	-.140	.055				
12	HID PAT					.289	.300	-.073	.252
13	RAVENS	-.095	.038	.197	.106	-.111	.013	.170	.107
14	GVAT	.072	.208	-.094	.258				
15	LULE	-.125	-.360	.281	-.240	-.044	-.269	.190	-.143
MULTI R		.569	.546	.768	.661	.612	.564	.752	.662
F VALUE		2.296	2.043	6.921	3.730	3.738	2.914	8.118	4.878

Table 2. Standard Partial Regression Coefficients, Multiple Regression Coefficients, and F-Values for Test and Criteria Variables Soche Hill Secondary School. N=55

No.	TEST	Battery A BETA WEIGHTS IIIEWW	IIIETD	IIIEWW	IIIETD	Battery B BETA WEIGHTS IIIEWW	IIIETD	IIIEWW	IIIETD
1	VAL	-.042	-.221	-.105	-.189				
2	RDL								
3	MEC	.052	-.159	.150	.215	.097	-.186	.144	.412
4	BOXES	.009	.197	.207	.240	.081	.172	.218	.220
5	FIG								
6	ARITH	-.143	-.226	.100	.017	.043	-.169	.072	.004
7	MAN								
8	SPATIAL	-.063	.166	.061	.250	.006	.225	.119	.248
9	MPFBT	.204	.343	-.027	.177	.217	.366	.004	.193
10	ID PIC								
11	PAP FD	-.010	-.071	.120	-.027				
12	HID PAT					-.069	-.026	-.012	.065
13	RAVENS	.085	.291	-.276	.081	.144	.309	-.285	.046
14	GVAT	.253	.255	.045	.096				
15	LULE	.166	.164	.122	.199	.187	-.201	.096	.136
MULTI R		.565	.623	.422	.810**	.540	.575	.409	.798**
F-VALUE		2.065	2.786	.953	8.416	2.368	2.837	1.153	10.089

The resultant battery B included tests designed to measure:-

Mechanical Information
Spatial Ability
Arithmetic
Perceptual Speed
Non-Verbal Ability.

The tests discarded were ones that appeared to be contributing little to the overall multiple correlation coefficients - those which supplied information which overlapped with and duplicated that provided by those tests selected.

The reduced battery was administered to a larger sample of 325 Form 1 pupils following recognised technical courses in five secondary schools throughout the country. There was no significant difference between forms within a school. However, it was not possible to combine the data from each school as significant differences between one school in the sample and the the remainder were found; the two groups would have to be treated separately as in the pilot project. The degree of the relationship between individual tests in the battery and between the tests and the established criteria was determined. These eight test variables and the variable AGE were combined in a battery and a multiple correlation coefficient calculated against each criterion variable which had been established (Table 3, battery A, D, F.,

Table 4 battery A, C, F.) The beta weights for the nine variables were inspected and those which appeared to be contributing little to the overall multiple correlation coefficient were omitted. Subsequent multiple correlation coefficients were calculated (Table 3 battery B, C, E, G, H, Table 4 battery B, D, E, G.). It will be noted that the variable AGE assists the predictive validity of the tests for four of the six resultant batteries (Table 3 batteries E, H, Table 4 batteries E, G.), and its use as a predictor in the context of this study emphasised.

The size of the multiple correlation coefficient was reduced by three factors, the reliability of the tests, the reliability of the criterion and the restriction in range of the sample (Ghiselli 1964). To some extent this has been compensated for by the tendency of a multiple correlation coefficient to capitalize on all the chance variances which favour a high value, or biased estimate of the Multiple R (Guildford 1956).

Table 3. Standard Partial Regression Coefficients, Multiple Regression Coefficients, and F-Values for Test and Criteria Variables for the Combined Data at Dedza, Masongola, Malosa and Mzuzu Secondary Schools.

	BETA WEIGHTS BATTERY FOR TECH. DRAW N=197			BETA WEIGHTS BATTERY FOR WOODWORK N=149		BETA WEIGHTS BATTERY FOR METAL WK N=99		
	A	B	C	D	E	F	G	H
No. TEST								
1 MEC	.14	.14	.14	.17	.20	.36	.38	.33
2 BOXES	.02	.03		-.01		.18	.19	.19
3 ARITH	-.02	-.02		.11	.10	.08	.08	
4 HID PAT	.14	.14	.14	.12	.14	-.01		
5 RMPFBT	.02			.05		-.19	-.19	-.22
6 RAVENS	.02			.04		-.01		
7 LULE	.12	.12	.13	.05		.08		
8 SPATIAL	.23	.24	.26	-.14	-.09	-.11	-.08	
9 AGE	-.02	-.03		-.10	-.11	-.29	-.29	-.28
MULTI R	.54**	.54**	.54**	.29	.28	.51	.51*	.50**
F-VALUE	8.75	11.35	20.02	1.46	2.51	3.44	5.27	7.66

* SIG < .05
** SIG < .01

Table 4. Standard Partial Regression Coefficients, Multiple Regression Coefficients, and F-Values for Forms IE and IM at Henry Henderson Institute. N=44

		BETA WEIGHTS BATTERY FOR TECH. DRAW.		BETA WEIGHTS BATTERY FOR WOODWORK			BETA WEIGHTS BATTERY FOR METAL WORK	
		A	B	C	D	E	F	G
No.	TEST							
1	MEC	.01		-.01			-.30	-.28
2	BOXES	.27	.27	.32	.34	.26	.09	
3	ARITH	-.01		.14	.15	.15	-.13	
4	HID PAT	-.14	-.15	-.13	-.13		.26	.29
5	RMPFBT	.38	.38	.10			-.21	-.22
6	RAVENS	.12	.12	.38	.43	.39	.62	.61
7	LULE	-.01		.10			.01	
8	SPATIAL	.25	.27	-.19	-.08		-.24	-.24
9	AGE	-.04		-.29	-.30	-.27	-.14	-.21
MULTI R		.80*	.80**	.74*	.74*	.72**	.65	.64*
F-VALUE		6.86	13.70	4.65	7.30	10.74	2.81	4.33

* SIG $<.05$
** SIG $<.01$

Table 5. Standard Partial Regression Coefficients, Multiple Regression Coefficients, and F-Values for Primary School Leaving Examination Results and Criteria Variables for the Combined Data at Dedza and Mzuzu Secondary Schools. N=88

	TD	WW	MW
ENGLISH	.06	.02	.01
MATHEMATICS	.01	-.14	-.06
GENERAL	-.18	.07	.08
SCIENCE	.27	.35	.20
MULTI R	.29	.42	.23
F-VALUE	1.86	4.48	1.37

* SIG .05
** SIG .01

This bias in an estimate of the Multiple R is more pronounced on small samples (Henry Henderson Institute N = 44) than large samples (other four schools N = 197). The interplay of these separate factors is responsible for the size of the multiple correlation coefficients represented in Tables 3 and 4.

The present selection of pupils into secondary schools is based on the results of the Primary School Leaving Examination (P. S. L. E.) which includes measures of English, Mathematics, Science, as well as a General Paper. The combination of the scores on these measures gives an indication of general ability, which is deemed essential for success in further academic courses of the secondary school type. Pupils who have a high 'general ability' are likely to do well in a pure academic course, they are also likely to do well in a practically oriented course. The value of the battery of tests to identify male Malawian pupils at a Standard 8 - Form I level for the technical courses offered in certain Malawian secondary schools has been shown. It is possible to compare the results from the test battery with the results obtained by pupils in the sample on the P.S.L.E.

The scores on individual measures within the P.S.L.E. were obtained for the sample at Dedza Secondary School and Mzuzu Secondary

School, as these two schools formed the largest group for which all criteria variables, in technical subjects were available. The predictive validity of the P.S.L.E. measures for each technical subject were calculated and are indicated in Table 5. None of the multiple correlation coefficients are significant even though they are conservative estimates of the predictive validities of the Primary School Leaving Examination. If the results were cross-validated (Cronbach 1970) the coefficients were corrected for shrinkage (Guildford 1956) the validities for Technical Drawing, Woodwork and Metalwork (TD, WW, MW) in Table 5 were .23, .38, and .14 respectively.

It is apparent, that while the P.S.L.E. may identify pupils for further academic courses, the measure is inferior to the test battery which has been developed to identify pupils for the technical courses offered in certain Malawian Secondary Schools.

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PREPARATION OF MATERIALS TO DEVELOP READING READINESS IN CHILDREN OF PRE-SCHOOL AGE

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Summary

Reference: Vol.3 (1970-71) J5 (p.118)

The study defines reading readiness as the point at which learning to read proceeds with minimum of difficulty in the case of a child. It involved the preparation of Reading Readiness Tests based on word meaning, sentence meaning, visual perception, auditory discrimination, and copying for children 4 - 5 years of age, and testing the reliability and validity of these tests. It concludes with recommendations for discovering individual reading readiness, allowing the child to develop reading skills at his own pace, providing a variety of interesting reading material, and making reading fun for the child.

Report

The major objectives of the project were (i) to prepare materials such as pictures, charts for the development of Reading Readiness; (ii) to prepare Reading Readiness Tests and administer them to children of the pre - school age, and (iii) to determine the reliability and validity of the tests.

For the purpose of this project reading readiness is interpreted as the point at which learning to read proceeds with a minimum of difficulty in the case of a child.

Procedure:

A questionnaire was issued to teachers of Standard 1 in 27 schools situated in different environments in the city of Madras. The answers showed that most teachers have only vague ideas about reading readiness and that discovery of readiness is incidental, not generally pre-planned. There is, however, clear evidence in support of the need for reading readiness tests.

With the use of the words-list prepared by the S.I.T.U. Council of Educational Research in its earlier project on the Functional Vocabulary of pre-school-age children preliminary studies were made for the choice of

items for the following tests modelled on those that had been prepared by the National Council of Educational Research and Training for Hindi children:

i) Word meaning test
ii) Sentence meaning test
iii) Visual perception test
iv) Auditory discrimination test
v) Copying test

The first two tests were both verbal and non-verbal; the fourth consisted of three parts: initial sounds, final sounds and middle sounds of words.

Sample:

The target of the sample was 342 children (boys:203 girls:239) drawn from 15 nursery schools situated in difference parts of Madras. The socio-economic level of the children was decided on the occupational basis of the parents. High: Low is as 3:4 in the sample (244) to which all the tests were administered. The sample was incidental in the sense that the investigators accepted the schools that readily and willingly offered to participate in the Project; it was purposive because care was taken to secure a fair representation of children of both sexes belonging to different socio-economic levels and different environments in an urban area.

Children tested belonged to the age group 4 to 5.

Findings:

1. Children of 4 + were ready to take instruction in reading

2. Girls (4 to 5 +) scored better in reading readiness tests than boys.

3. The copying test was not so easy for the children as the visual perception test.

4. Nursery school children from the low income group were as able as their compeers from high income group in their performance in reading readiness tests. (This may need validating after making a wider study).

5. Children exhibited equal ability in doing verbal and non-verbal tests.

6. Children of what was called the pre-school age was in firm possession of essential language elements to profit by reading.

7. There was an urgent need for
   a) Reading Readiness work books,
   b) Pre-primers and
   c) thoughtfully planned materials, such as,card boxes of letters and words for building words and sentences.

8. The reading readiness tests prepared by the S.I.T.U. Council of Educational Research could be used

a) for diagnostic purposes at the time of admitting children to standard 1 and
b) for making children below 5 + more ready to learn to read than they actually were

9. The tests, verbal and non-verbal, helped in the preparation of languages materials to be used in pre-primers and primers.

10. All children were not equally equipped to commence reading.

Reliability:

Formula A: number 81, called rational equivalence by Henry E. Garrett and R.S.Wordsworth, was applied to the test scores. The reliability coefficient obtained was. 94.

Recommendations:

There was no one time at which all children were ready to read. Whether the child began to read early or late depended on the reactions of his nature and nurture, which factors varied from child to child.

It was, therefore, recommended that in teaching children 3 - 5 the following principles be adopted:

i) Accept the child as he is.
ii) Allow him to develop reading skill at his own pace.
iii) Provide him with a variety of interesting reading readiness materials and try to turn the work of learning to read into an interesting play.

All young children should be given the chance to begin their schooling in first standard, and the first standard should be for three year olds, Four year olds should go to the second standard and five year olds to the third standard. This would considerably reduce wastage.

A phased programme of education of children from 3 to 5 should be entrusted to the State Institute of Education, for that is the stage at which experiments may be easily and fruitfully conducted. These institutes according to the recommendation of the Education Commission (1964-66) are to be charged with the duty of training teachers for the so-called pre-primer stage.

The preparation of reading readiness materials should be entrusted to the Institute of Education in the State, as well as to private agencies engaged in research.

Steps should be taken to prepare a curriculum guide for teaching children 3 - 5.

Suggestions for further work:

There is a need for a survey of the materials now available and used in nursery schools with a view to studying their adequacy and educational value and suggesting the production of desirable additional materials.

A pre-primeris an urgent necessity. This is not intended to serve as a text book. This may consist of as many books as there are sections in the S.I.T.U. Council's classified list of words plus other books with pictures and suggestions for activities.

A READING EXPERIMENT WITH PITMAN'S WORLD INITIAL TEACHING ALPHABET (W.I.T.A.)

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Summary

Reference: Vol.2 (1969) F27 (p.78-79)

W.I.T.A. is a coding system aimed at making learning to read English easier by using more consistent symbol-sound relationships than exist in Traditional Othography. W.I.T.A. also gives clues for identifying stressed and unstressed syllables, and changes in vowel sounds in stressed and unstressed positions. The study investigates longitudinally (1966-68) the values and problems of teaching young children (7-9) to read through W.I.T.A. by comparison with a controlled group learning to read T.O.

Some of the major recommendations of the report based on the findings are:

1) W.I.T.A. should be used more widely in Nigerian schools and throughout the Commonwealth where English is a second language.

2) It should be introduced before pupils have had contact with T.O.

3) Since W.I.T.A. improves pronounciation Primary school teachers (through in-service training) and all those in teacher training institutions should learn to read it.

4) All primary school teachers should be trained in the techniques of language teaching.

5) Further investigations should be conducted in other related problems arising out of this study, and tests should be designed and standardised for measuring performance in English.

6) An analytical study of the orthographic systems of the major Nigerian languages should be undertaken.

Report*

The Investigation

World Initial Teaching Alphabet (w.i.t.a) was designed by Sir James Pitman who thought it would be supremely suitable for the teaching of English reading in countries using English as a second language.1 This coding system is another one in the long line of new coding systems aimed at making learning to read English easier by achieving more consistent symbol-sound relationships than is the case in Traditional Orthography (T.O.). In addition, w.i.t.a. contains clues for identifying stressed and unstressed syllables as well as the changes in vowel sounds in stressed and unstressed positions.

In this study, a survey of the various methods used in the teaching of reading led to the examination of the different graphemic systems which have been suggested for the writing of English at one time or the other, and this finally culminated in the tracing of the antecedents to the development of the Initial Teaching Alphabet (i.t.a.) which gave birth to w.i.t.a. An experimental study of the values and problems of teaching children to read through w.i.t.a. in schools in some parts of Nigeria was planned and executed. The investigation was a longitudinal one in which, during the years 1966 to 1968, some groups of young school children first learnt to read English through w.i.t.a. and then changed over to reading T.o., while other parallel groups of children who learnt to read through T.O. right from the beginning served as control.

Two distinct types of schools were involved in the experiment, viz: seven schools in the rural areas to the north of and near Ibadan, and fourteen schools situated in urban settings in Lagos areas. Two Groups of children, i.e., A. and B, were taken into the experiment in 1966 when they were in their first and second years respectively, in schools in the Ibadan area, and a third Group i.e. D, was taken in 1967. In the Lagos area, one Group, i.e. C, consisting of children who were entering school for the first time were taken into the experiment in 1966. Each of these four Groups of children consisted of two sub-groups, i.e. the experimental and the control sub-groups. Efforts were made to ensure that the sub-groups in each case were equally matched in ability and location of school. The experimental and control classes were similarly treated and all the essential materials for both teachers and pupils were supplied. By means of tests, observations and teachers' reports, the differential effects of using two different coding systems in the teaching of English were discovered.

Results

It was found that this type of investigation was fraught with problems relating to the continuity of teachers and pupils. Unexpected changes in staffing and the departure of some pupils made the even matching of experimental and control groups difficult. The controlling authorities as well as the teachers, however, co-operated to maintain continuity of teachers as far as possible.

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1. c.f. Pitman, Sir James, & St. John, John (1969). Alphabets and Reading. London. Sir Isaac Pitman and Sons.

It was also found that the beginners, that is, in Groups B, C and D, who learnt to read through w.i.t.a. were superior to their control counterparts in oral reading and pronunciation in English before they made the transition to T.O. This superiority was maintained after the transition to T.O. It is argued that the relative consistency of the symbol-sound relationships in w.i.t.a. helped the children in the experimental groups to make better progress in reading than did those in the control groups who used T.O.

In the case of Group A children who were in their second year in school before the experimental programme was introduced it was found, however, that the control group performed better than experimental group both before and after transition to T.O. The suggested explanation is that the introduction of w.i.t.a. when the children had had some contact with T.O., even though they could not read yet, probably had some adverse effects on their progress in learning to read. It is thought that their former contact with T.O., probably interfered with their efforts in learning to read through w.i.t.a. later.

In these Groups where w.i.t.a. helped the pupils to make better progress than did T.O., it helped both the more and the less intelligent pupils more than T.O. did. The result is that a greater proportion of pupils using w.i.t.a. reached a criterion level in reading than the proportion of those using T.O.

Performance in Arithmetic and Yoruba reading appeared not to be directly related to the coding system used in learning to read English, because experimental and control groups tended not to differ significantly in this respect. In attitudes to school and reading, experimental and control groups were not different, excepting in the case of Group A pupils where the experimental group had more favourable attitudes. The performance of this group is explained by the fact that w.i.t.a. which was introduced when they had had some contact with T.O. was some sort of novelty to them and for this reason probably aroused more favourable attitudes, whereas in the case of the other groups both w.i.t.a. and T.O. would be equally novel since there had been no previous contact with any other system.

A period of about twelve to fifteen months of reading w.i.t.a., subsequent to about nine to twelve months of purely oral English lessons, was required before transition to T.O. The transition period was not associated with any special problems for the pupils although, as might be expected, there was a temporary slowing down of progress during this stage when they had to learn some new symbol-sound relationships in T.O. The teachers were however confronted with the problem of organising lessons in a class containing pupils at different levels of attainments in reading, with some reading w.i.t.a. and others T.O. Better training in the handling of small groups within a bigger class, development of the flexibility of approach, and patience on the part of the teacher, as well as a change of attitude among those who inspect teachers' and pupils' progress would however make the transition stage an easier and smoother one for the teacher.

In reading comprehension and general reading attainments, the experimental and control groups were not significantly different, probably because the acquisition of a functional vocabulary and syntactic structures in English was not much different for the two groups. Although T.O.-taught pupils tended to be superior in spelling, soon after the w.i.t.a.-taught pupils had changed to using T.O., attainments in spelling became progressively similar in time. Finally, it appeared that the differences between experimental

and control sub-groups within each of those Groups of pupils in the rural areas of Ibadan tended to be greater than those observed between the two sub-groups within Group C in the urban areas of Lagos. This indicates the influence of social background.

Recommendations

In the light of the results obtained in this experiment, the following recommendations are put forward:

(i) Since w.i.t.a. has appreciable values in teaching English reading in second language situations, it should be more widely used both in Nigerian schools and in other parts of the Commonwealth where English is used as a second language.

(ii) For maximum benefit to be derived from the use of w.i.t.a. as an initial teaching medium, it should be introduced before the pupils have had contacts with the Traditional Orthography.

(iii) Since w.i.t.a. has the effect of improving the teachers' English pronunciation, primary school teachers in Nigeria should be taught to read w.i.t.a. through in-service training, and all those in teacher training institutions should learn to read it.

(iv) In addition to the recommendation in sub-section (iii) above, all primary school teachers should be further trained in the techniques of language teaching - both in speaking and reading - so as to promote greater initiative and flexibility in their approach to teaching.

(v) An investigation should be conducted in the near future to discover the relative values of using phonically graded material to teach children to read by the 'phonic-word method' in T.O. and w.i.t.a.

(vi) Where schools having multi-streams are involved in any such experiment, attempts should be made to let the same teacher teach the matched experimental and control classes using two different orthographic systems, in the same school.

(vii) Course books recommended for the teaching of English in second language situations, such as in Nigeria, and most especially at the initial stages, should always be those that provide in the "Teachers' Notes" suitable and adequate guidance on both the organization and contents of oral English lessons.

(viii) Comparative studies involving the use of w.i.t.a. and other new orthographic systems should be undertaken in a continued search for the most advantageous system for teaching reading and writing to learners of English.

(ix) Tests should be designed and standardised for measuring Nigerian primary school pupils' attainments in spoken English and reading.

(x) Analyses of the orthographic systems of the major Nigerian languages should be undertaken with a view to designing initial reading materials in English which would enable Nigerian children who first learned to read in the mother tongue, or any other Nigerian language, to make maximum transfer of the skills acquired in reading such a language to the reading of English.

(xi) The progress of the pupils involved, both as experimental and control groups, in the experiment reported in this thesis, should continue to be observed and measured for the purposes of comparison until they complete their primary school course.

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AN EXPERIMENTAL EVALUATION OF SOME ASPECTS OF SECONDARY SCHOOL SCIENCE CURRICULUM IN PAPUA, NEW GUINEA

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Summary

Reference: Vol.2 (1969) H3 (p.93)

5 Studies were undertaken.

Study i - In 1965 Grade 10 population of science pupils were tested for readiness for further studies in physics, and the results were compared with that of groups of pupils in Grades 6 - 10 in Australia.

Study ii - In 1967 the performance of Grade 10 Papua New Guinea pupils and Australian Grade 10 pupils on the Papua New Guinea School Arts and Science Exam were compared to identify the difference at the same grade level.

Study iii - In 1968 a test of understanding science was used in a longitudinal study over a year of students studying science in a teachers' college. This provided data on the effectiveness of the teachers' college science course in developing students' understanding of the nature of science. The performance of the group on the pre-test at the completion of their Secondary School Science course reflected the effectiveness of the Secondary School Science Course.

Study iv - In 1970 the Grade 10 population was tested with the 1967 test of readiness for further studies in physics, when in the intervening period 1967 - 70 the Secondary School Science syllabus had been modified. The performance was compared with the performance of the 1967 Grade 10 population. This enabled the assessment of the effects of innovation.

Study v - In 1972 an analysis of common incorrect answers in multiple-choice questions science examination at Grade 9 and 10 levels revealed a pattern of behaviour termed "focussing", whereby pupils focussed on only part of the information in arriving at an answer. Subsequently, a test of focussing was developed to examine this behaviour among secondary and tertiary students in Papua, New Guinea.

Report

Introduction

In recent years there has been an increasing recongnition of the importance of school science courses in developing countries. At the same time there has been an increasing awareness that the values, patterns of behaviour and basic assumptions of science are likely to be at variance with those of the particular non-Western community from which the pupils are drawn. (e.g. Stone 1967, Maddock 1968, Williams 1970). If a science curriculum is to be successful in such a situation, it must take cognizance of the attributes of the children who will study the curriculum. Accordingly, in this context, it becomes extremely important to gather data on the attributes of the pupils taking science so that this data can be used in the planning of the science curriculum. It is also important that the science curriculum be continually modified in the light of assessments of its effectiveness when it is used in classrooms with children.

The Studies

In 1967 a series of studies designed to evaluate some aspects of the effectiveness of current secondary school science courses in Papua New Guinea were commenced. The conduct of these studies will be described briefly below, and the results obtained will be presented later.

Study 1 Performance on tests of readiness for further studies in physics. (Mackay 1968, 1969b; Mackay and Gardner 1969).

In 1967, an attempt was made to test the Grade 10 population of science pupils in Papua New Guinea with tests designed to test readiness for further studies in physics (Mackay et al. 1967). Detailed analysis of performance on each of the hundred multiple-choice items was undertaken, and the performance of the group compared with that of groups of pupils in Grades 6 to 10 in Australia. Individual interviews conducted with pupils in three Papua New Guinea High Schools soon after the testing were used to identify and elucidate the nature of some of the misconceptions, vocabulary difficulties, and conceptual difficulties evoked by the test items. These interviews were supplemented by tape-recorded group interviews conducted by science teachers immediately following the testing.

Study 2 Performance of Grade 10 Papua New Guinea pupils and Grade 10 Australian pupils on the 1967 Papua New Guinea School Certificate Science Examination. (Mackay 1968, 1969a).

Late in 1967, the science examination which had been completed a few weeks earlier by the population of Grade 10 science pupils in Papua New Guinea was administered to a sample of 540 Grade 10 pupils in Melbourne. A detailed analysis of performance on each question was undertaken to identify some of the differences between Papua New Guinea and Australian pupils at the same grade level.

Study 3 — Understanding of the Nature of Science for Teachers' College students. (Mackay 1970).

In 1968, the Test on Understanding Science (Cooley and Klopfer 1961) was used in a longitudinal study over a year of a group of students studying science in a Teachers' College in Papua New Guinea. In addition to the results providing data on the effectiveness of the Teachers' College science course, in developing students' understanding of the nature of science, the performance of the group on the pretest provided an estimate of their level of understanding of the nature of science at the completion of their secondary school science course. Thus the results reflected on the effectiveness of the secondary school science course.

Study 4 — Changes in science achievement accompanying a change in the science curriculum. (Mackay 1971).

In 1970 an attempt was made to test the population of Grade 10 pupils in Papua New Guinea with the same tests of readiness for further studies in physics used in the study in 1967 (described as Study 1 above). In the intervening period, the secondary school science syllabus had been modified as described by Maddock (1968), so that the pupils tested in 1970 had studied a different syllabus to those tested in 1967. Comparison of the performance of the 1967 and 1970 samples enabled the assessment of some of the effects of the innovation.

Study 5 — Study of "Focussing" behaviour. (Mackay and Putt 1972).

As a result of analysis of common incorrect answers on multiple-choice questions on public examinations in science at the Grade 9 and Grade 10 levels in Papua New Guinea, a pattern of behaviour termed "focussing" was identified. This behaviour can be related to failure to achieve Piaget's formal operational stage, (Inhelder and Piaget 1958), as it involves the pupil focussing on only part of the information in arriving at an answer, rather than considering a number of pieces of information in conjunction to arrive at the correct answer. Subsequently a Test of Focussing was developed and used to examine the prevalence of focussing behaviour among secondary and tertiary students in Papua New Guinea.

Summary Results

The results obtained from the five studies can be regarded under several headings.

(i) Identification of attributes of science pupils in Papua New Guinea

As indicated earlier, information on pupil attributes can provide an important base for the planning of instruction.

(a) Vocabulary difficulties

As a result of interviews conducted in conjuction with Study 1, it was apparent that many pupils experienced difficulty with words in the tests. Many of these words appeared to be so crucial for learning in science classrooms that it was considered that these vocabulary difficulties would be likely to seriously affect pupil learning. Subsequently, P.L. Gardner of Monash University has undertaken a further investigation of the scientific vocabulary of Papua New Guinea pupils.

(b) Common misconception and conceptual difficulties

A number of widely held misconceptions were identified in the results for Studies 1, 3 and 4. Although they are too numerous to be listed here, the following examples may illustrate the type of misconceptions identified:

1. Less than a quarter of the Grade 10 pupils in Study 1 recongnized that the speed at each instant in a journey need not be the same as the average speed for the journey. For the 1970 sample in Study 4, less than a sixth of the pupils recognized this.

2. More than half the students in Study 3 answered that the principal aim of science was to "discover, collect and classify facts about animate and inanimate nature", as compared to less than one-sixth who recognized that the principal aim was to "explain natural phenomena in terms of principles and theories."

3. Two-thirds of the Teachers' College students in Study 3 regarded the statement that "scientists are generally geniuses" as true.

(c) Occurrence of focussing behaviour

The results of study 5 provide clear evidence for the existence of consistent patterns of focussing behaviour among some secondary school pupils in Papua New Guniea, and supports the evidence of Prince (1969) and others that many of the pupils have not attained Piaget's formal operational stage by the end of secondary schooling.

(ii) Comparison of the attributes of pupils in Papua New Guinea and Australian pupils

Cross cultural comparisons are fraught with difficulties. Nevertheless, information of a comparative nature can be useful in deciding in which ways 'imported' curricula need to be modified, and also in assisting teachers imported from another context to adjust to a new teaching context.

(a) Level of attainment in science

The results of Study 1 suggest that in terms of readiness for further studies in physics, science pupils in Papua New Guinea at the end of Grade 10 have reached about the same level of attainment as Australian pupils part way through Grade 9. Further support for the relatively poorer performance of Papua New Guinea pupils than Australian pupils in the same grade was found in Study 2.

(b) Understanding of the Nature of Science

The results of Study 3 suggest that at the end of Grade 10 in Papua New Guinea, the level of pupils' understanding of the nature of science was at about the same level as Australian pupils' at the end of Grade 6.

(c) Frequency of occurrence of patterns of focussing behaviour

In terms of the distribution of focussing scores obtained on the Test of Focussing, the results of Study 5 suggest that students in Papua New Guinea in their first year of tertiary education are equivalent to a group of Victorian pupils about four years younger. This supports the view of Prince (1969) that there is a lag in the achievement of Piagetian stages by children in Papua New Guinea when compared to children in Western society.

(d) Different conceptual and learning difficulties

The results of Studies 1 and 2 have indicated differences between pupils in Papua New Guinea and Australia in terms of their misconceptions and the topics which they find most difficult.

(e) Subsequent observation of similar learning difficulties among Australian pupils

In a number of cases, effects which have been apparent as a result of study of Papua New Guinea children have later been found to occur for Victorian pupils. This has been an additional payoff from the research. For example, testing of Victorian pupils for Study 5 revealed the existence of consistent patterns of focussing behaviour, and the results of Study 1 indicated that many of the misconceptions and difficulties apparent for Papua New Guinea pupils also occurred for Victorian pupils.

(iii) Identification of deficiencies in instruction

The identification of deficiencies in instruction provides a rational basis for curriculum revision. The five studies enabled the identification of deficiencies in a number of ways.

(a) Identification of areas in which post-instruction performance of pupils was less than might be desired

The results of all five studies provided information on topics and areas of the syllabus which pupil found difficult. Consideration of this performance revealed a number of areas in which the performance was less than would be desired and suggested a number of the curriculum where modification would be advantageous. The results also provide teachers with information which would enable them to identify likely difficult topics and concepts and to modify their teaching accordingly.

(b) Inadequacies in changes in pupil performance during the period of instruction

Study 3 revealed that there was no significant change in students' understanding of the nature of science during a year in which they studied science in a Teachers' College. This result suggests that, as teachers, these students would be unlikely to present an adequate picture of the nature of science to their pupils. This in turn suggests the need for changes in the Teachers' College science courses.

(c) Evaluation of the effectiveness of curriculum innovation

Comparison of the results from the 1967 and 1970 testings in Study 4 indicates that,whereas some small changes in performance on idividual items were observed, there had been no overall improvement in performance on the tests concerned between the two testings. However, it must be recognized that the test employed covered only a small sample of possible outcomes of the science courses concerned. The data obtained provide a basis for subjective judgements to be made by balancing the apparent 'gains' identified against the apparent 'losses', and against other advantages and disadvantages which have accompanied the curriculum innovation, thereby assisting in the evaluation of the effectiveness of the innovation.

Conclusion

This paper has only very briefly reported the results of five studies concerned with the evaluation of secondary school science curricula in Papua New Guinea. For more detailed results the reader is referred to the studies.

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AN INVESTIGATION INTO THE TEACHING OF SOCIAL STUDIES IN PRIMARY 'T' SCHOOLS IN THE TERRITORY OF PAPUA AND NEW GUINEA

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Summary

Reference: Vol. 2 (1969) H2 (p. 92)

Social Studies Syllabuses in Papua and New Guinea have been organised around particular topics from which the teacher must choose the most relevant for his class. This is difficult enough where patterns of living are held commonly; but where, as in Papua and New Guinea, social diversity is so wide and varied the problem is highly magnified. This project was designed to examine the feasibility of using the 'concept approach' in teaching the subject.

Two units of curriculum were tried with two classes in different schools, viz, the family with Standard III, and government with Standard V, the teachers having been provided with detailed lesson guides for teaching.

The report describes the procedure, and the response of both pupils and teachers, and draws the conclusion that the 'concept approach' is a possible alternative to the existing curriculum, and preferable to an 'information oriented' syllabus.

Report

A research grant from the Department of Education in T.P.N.G. enabled myself and Mr. G. Johnston to visit Port Moresby, Lae, Kundiawa, and Wewak in 1967-8, to investigate some of the problems in the teaching of social studies in Primary 'T' schools which catered mostly for the Territory's indigeneous children who were learning English as a second language.[1] A result of the visit was an experimental project which ran for six weeks involving six classes at North Goroka and at Barunik Port Moresby, in July-August 1968.

Granted the important place of social studies at the very minimal level of knowledge and skills, it is in this subject nevertheless that the

[1] Primary T schools can be contrasted with schools where the instruction assumed an extensive prior knowledge of English, and where the children were of English speaking descent.

teacher faces most acutely the problems of obsolescence and change,for he must select which facts from the multitudinous variety indicated by his syllabus are of most relevance in his teaching. The task is difficult enough in a country where many patterns of living are held commonly, but in a country with the social diversity of the Territory the problem is magnified proportionately.

Social studies syllabuses in the past have usually been organized around the particular rather than the general,which has meant that learning in the subject has been of very limited application. Yet if a syllabus could be devised which made use of social science concepts the way would open for making an analysis beyond the specific situation. To elaborate, the syllabus planner for Standard III might wish to introduce a unit on family living but he is well aware that the Territory's children come from many types of family groups, with differences based on the habits of different tribes, on whether the family is indigenous or of European origin, and on alternative behaviours within the tribes. To narrate even a sample of the differences and similarities between the Territory's communities would require an array of resources and the description of an overwhelming number of facts, yet the results would still only be valid in the particular situations described. However, it is conceivable that this multitude of specifics could be handled more meaningfully by some classification which could well be applied to a universe of families.

The first project introduced to the Standard III classes at North Goroka and Buruni was based on learning situations designed to reveal underlying structures of the family. Aspects selected for study were: the family as a group; relationships between families; family activites involving roles, work, and entertainment; and an examination of a selection of these in the lives of a past generation. Local material was used to provide the basic understandings, and the outcomes were contrasted with family life in other regions including Australia. An integral part of the project were three semi-programmed booklets: Family; Activities; and Work. These were essentially linear in organization making use of open-ended responses and incorporating student opinion frames. Charts, work-sheets, coloured and black and white slides with tape-recorded commentaries, and a strip-film on roles were also used in certain lessons.

Unit I introduced the idea of the family as a group and that families have different members and are of different sizes; then immediate family relationships were discussed and extended to include past genrations; finally, some implications of different family sizes were related.

Unit II discussed relationships between families within the tribes, and across tribal areas.

Unit III dealt with family activities including roles, and covered personal and family activities, and family members' responsibilities; it also demonstrated that sex, age, and family relationship help determine what work each member undertakes. Concepts learnt to this point were put into the Australian social context for purposes of comparison.

Unit IV looked at family activities, and family at work which was categorized into wages and general jobs; factors determing job selection and wages were discussed; and work in T.P.N.G. was contrasted with work in Australia.

Unit V on entertainment followed in which the activities of family members were listed having regard to individual activities, those undertaken with the family, and with the community as a whole.

Unit VI, a time sequence unit, aimed to give children some understanding of the past related to previous ideas of family composition, father's role, and entertainment.

Unit VII, the concluding unit, was one of revision and evaluation.

The project introduced to Standard V's at Baruni and North Goroka concerned the functions of government. Primarily it examined local government in T.P.N.G. through the perspective of a social science analysis of the functions of government which could be identified in various societies at different times. The functions selected for class treatment were: decision making; decision application; decision adjudication; and the role of support in the maintenance of government systems. These concepts were organized in six teaching units: the development of a model story; local government decision-making; putting decisions into practice; the settlement of disputes; support for government; and a recapitulation section. The programme's objectives were to make the children aware that some form of government is necessary for all forms of social living, to develop an understanding of the functions that governments can be expected to perform, to identify these functions when they occur, and to suggest when these functions should be performed for the maintenance of society.

In Unit I the children considered a group stranded on an island, and discussed ways in which disagreements between the members could be resolved. Alternative ways were listed, and the advantages of the majority decision method debated.

Unit II looked more closely at how agreements are reached, and decision-making was related to Local Councils and the sorts of decisions they take. Here problems from case studies were discussed, and the classes were actively involved in mock debates, visits, etc. Contemporary Local Council decision-making processes were then contrasted with practices from pre-European society.

The Unit III dealt with putting decisions into practice, it examined the task of Council employees, and led on to the advantages of specialization. It was emphasised that the term government implies arrangements for getting things done, for seeing that decisions are put into practice, and that this holds true equally for the government in T.P.N.G., for Australia, and for any other social unit.

Unit IV set up several situations in which disputes must be settled, and involved such problems as how to decide when a man had broken the law, and,if it was determined that he had disobeyed the majority decision, whether punishment should be incurred. These situations were related to the introduction of Unit I, and to circumstances of Territory life to-day. The unit concluded with an explanation of ways in which disputes were settled in the past. The notion of support or agreement to accept decisions arrived at by the rules was introduced in Unit V, where support through elections and tax payments provided the basis for most lessons. The final unit emphasised that government was concerned with making decisions, with putting them into practice, and judging when they must be obeyed. In both projects it was thought advisable to leave the adaptation of specialist vocabulary to the

teachers as much as possible, for some terminology would be clearly beyond the capacity of many primary children.

One advantage of a social studies syllabus based on a concept-centred or analytical approach is the extent to which the teacher can exploit his environment in showing the similarity between introduced ideas and those understandings which are already familar to the child. Thus the notoriously elusive Western ideas of time and distance may well 'hook on' to the rudimentary comprehensions already in existence. However imprecise a notion of time is, when reckoned by pig-feasts or by moon phases, or one of distance counted by nights spent away from the home, these experiences do contain the element under discussion. Similarly, local myths and legends make use of material which involves the listener in a world of time, distances, sizes, and complex relationships. The analytical approach could also prove an important aid in helping to explain why behaviours in indigenous Territory communities differ, and in the building up of sets of values. Supportive community behaviour to children and old people in the Territory is only one feature of a way of life from which Western societies can learn. The approach is also well adapted to fostering an awareness of the social implications of introduced ideas as against their uncritical acceptance just because they have European approval or have been European inspired.

Reshaping social studies along the lines suggested would bring it closer in spirit to such other important parts of the existing curriculum as Natural Science and Mathematics. Some of the expressed 'mental attitudes' in Natural Science with their emphasis upon curiosity, openmindedness, and 'a determination to find out why things happen' are obviously in sympathy with the aims of an analytic curriculum. Similarly in Mathematics, the stress put upon concept development and the use of structural material is indicative of how social studies can be made more effective. Recent advances in the teaching of English in the Territory also point to the worthwhileness of graded material intelligently applied. This material is particularly valuable when textbooks are often inappropriate, and much teacher training has been short term. Two points emerge from this interrelatedness which are especially important. Prior learning in English and Mathematics must be taken into account when the Social Studies syllabus is being planned; too often syllabuses are developed in isolation. And the use of structural material should not make the lesson a joyless occasion by reducing the natural spontaneity of the young child, and through limiting his opportunity to make non-typical responses.

The teaching materials and methods used are described in some detail in a 'Report on an Investigation into the Teaching of Social Studies in Primary 'T' Schools in the Territory of Papua and New Guinea, 1967-68' printed for the Department of Education, T.P.N.G., 1968. Samples of the booklets, class activity materials, work sheets etc. are held by the Educational Materials Centre, Department of Education, University of T.P.N.G. The report also contains findings from the objective-type test material, the results of pupil and teacher evaluation questionnaires, and comments on more general features of the evaluation. The report concludes with remarks on implementation procedures and the relationship of social studies teaching with other areas of the curriculum.

As this was the first acquaintance of the T.P.N.G. teachers and pupils with this sort of approach the response of both was most encouraging. It was found that pupils managed multiple-choice questions with competence though many found difficulty with the more open-ended questions which

required causal explanation or justification of choice. All teachers reported heightened pupil interest - I hope not entirely attributable to the 'Hawthorne effect' - and of the six teachers involved, when asked on a questionnaire whether they would like to see 'all', 'part', or 'none' of the syllabus organised on social science concept lines, three opted for all of the syllabus on these lines, three for part of the syllabus, and none suggested that the approach was unsuitable.

The evaluation of the Baruni and North Goroka projects suggests that a concept approach to the teaching of social studies in the Territory is a feasible alternative to the existing curriculum. Such an approach could provide the basis for the development of an understanding of society more generally applicable than that acquired through a more information oriented syllabus.

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PROGRAMMED LEARNING IN MATHEMATICS AND BIOLOGY IN SECONDARY SCHOOLS IN WEST NIGERIA

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Summary

Reference: Vol.1 (1968) F15 (p24)

This research project, based at the University of Ibadan, was conducted in West Nigeria from 1966 - 1969 in an attempt to assess how far programmed material might be useful in overcoming some of the difficulties that arose from the shortage of suitably qualified teachers in mathematics and science.

Using published programmed materials as trial tests, the researchers developed several other programmes which were evaluated on a large scale. In nearly all evaluations the programmes produced a significant amount of learning; but there were big differences in the amount learnt, and in the starting levels of the learners.

The conclusions were, quality of programmed materials apart, certain variables were important in controlling the successful use of programmed materials as teaching instruments, viz,

1. Second language difficulties
2. Problems of acculturation and vocabulary
3. Pupils' study habits
4. The teacher and method of teaching
5. The pupils' socioeconomic background

The report states that the problems of implementation of programme learning were human, and not merely directed by patterns of education, and that the need was to match the programmed instruction to the teachers and the pupils as they were, not as one would like them to be.

Report

A recent review of fruitful areas of research and sponsorship in education in developing countries notes the potential of programmed materials in coping with teaching when the supply of suitably qualified teachers are in short supply (World Bank, 1972). There was a stage in the development of programmed learning when the presentation techniques rather than the underlying principles seemed to offer an answer to the problems of teacher shortage.

It was in this vein that after preliminary discussions at the Ottawa Commonwealth Education Conference the British Government sponsored a research project into the use of programmes material in West Nigeria from 1966 to 1969. The project was based at the University of Ibadan, Institute of Education and its aim was to assess how far programmed materials might be useful in overcoming some of the difficulties that arise from the shortage of suitably qualified teachers in mathematics and science. Earlier work had been done by UNESCO workshops in Nigeria and Jordan which had suggested (Schramm 1964) that in this role programmed instruction was more likely to succeed in developing countries because "introducing the new media into a relatively new and rapidly growing system is not accompanied by the same restrictions as introducing them into a well developed system where patterns of education have hardened..."

The Project was at all stages hampered by the fact that it was conducted in Nigeria during the Nigerian Civil War. Though the area used was physically involved in the conflict to a very slight extent there were, nevertheless, constant psychological and administrative pressures which tended to disrupt the organisation of the development and use of the programmed materials. From the beginning it was accepted that it would be impossible for the project to run at its originally planned level, though it was able to maintain a team of four researchers for a large part of the two year period.

The plan of action

The plan adopted was to develop a number of programmed texts in biology and mathematics for use with 3rd year secondary school pupils and then to evaluate these in a wide range of situations, and attempt to assess how far the programs achieved their objectives. At the same time through concurrent assessments of the attitudes and the background characteristics of pupils there was to be an attempt to determine what variables were important in controlling the success of the programmed materials as teaching instruments. It was decided to concentrate entirely on paper and pencil presentations of programmed materials because this was the cheapest form to produce, it could be used in all schools and it matched the type of programmed material that was already available for use in West Nigeria. In fact, the layout of the programmed texts was very traditional in the strict allocation of space to each frame, but the aim was to produce the materials in a form that could be readily copied and used by an educational establishment in the country. It did not involve the use of unusual or expensive reproducation facilities. Teaching machines were not considered - other than as novelties - because of their expense and maintenance problems and the fact that they would not be able to be used in many schools, certainly not in representative establishments.

During the period when the project programs were being developed an attempt was made to try out a wide range of commercially available programmed texts at secondary school level in order to assess how far pupils were able to learn from them, to see what particular difficulties were associated with their use, both for pupils and teachers,and to gauge the level of teacher interest. Most important,these trial uses were to see whether much could be learned which would be of importance in determing the form and method of use of the project programs.

The use of published programmed materials

Most of the programs selected for use were available for purchase in shops in West Nigeria and some were already known to teachers. In one case a program had been used for some time in a Technical College.

The trials with these programs were as a result of requests from teachers following a lecture tour by the Project Director. More requests were received than could be met, and only thirty evaluations were successfully completed;but all did provide insights into the problems of using programs within the prevailing West Nigerian secondary grammer school context. No attempt was made to dictate how a teacher should use a program. With the exception of requesting that pupils should be tested before and afterwards the teacher determined the timetable and mode of working - with one or two exceptions where programs were 'doctored' for experimental purposes or when differential comparative modes of use were under investigation. Through 'normal' disruptions to teaching a considerable but not unexpected loss of data were experienced.

The types of schools ranged from small bush grammar schools with only the first two years operating, to stable long-established large grammar schools with many of the Country's leaders among their former pupils. The schools were selected from throughout the West State, several being over 120 miles from Ibadan.

It was particularly noticeable that the pupils' attainments were very dependent upon the administrative arrangements adopted by the teacher and by the amount of verbalising expected by the program. A mathematics program when used with a degree of teacher involvement (checking pupils answers to subtests) was successful in two widely differing school environments. When used in a teacher-substitute role, toying along with two other programs to provide the only mathematics teaching available to pupils in the first three years of one school, the amount of learning was negligible. A chemistry program was very well managed by one trained teacher on an individually paced basis with pupils reporting to the teacher at regular intervals for check tests. An untrained school leaver was able to take over this systematic use as a complement to his normal teaching, though, as with his predecessor, only with frequent assurances that the method was in fact working. Two equally verbal Geography and Physics programs,which presumably needed this degree of systematisation, failed when used without,and pupils resorted to copying rather than attempting to cope with the verbal juggling expected by the programs through their constructed response formats. These two programs were in a school whose administration was frequently disrupted by shortages of staff, and of pupils (who had not paid fees),and was also at one point closed by the Ministry. The programs accentuated pupil differences within the classes and thus made it difficult for teachers to organise on their own an effective method of using the programs which did not substantially change (in the way described

for the chemistry program above) the way in which they normally organised their classroom.

The brief description can only highlight one or two points and make reference to but a few of the evaluations. The overall picture with the commercial programs is one of very mixed attainments. In some schools programs did well, in others quite poorly. Successful performances were achieved where programs were used with a degree of participation by the teachers in the pupils' learning from the program (and thereby changing, intentionally or otherwise, from their normal whole class approach to teaching to a more individualised arrangement). This was done in two ways:

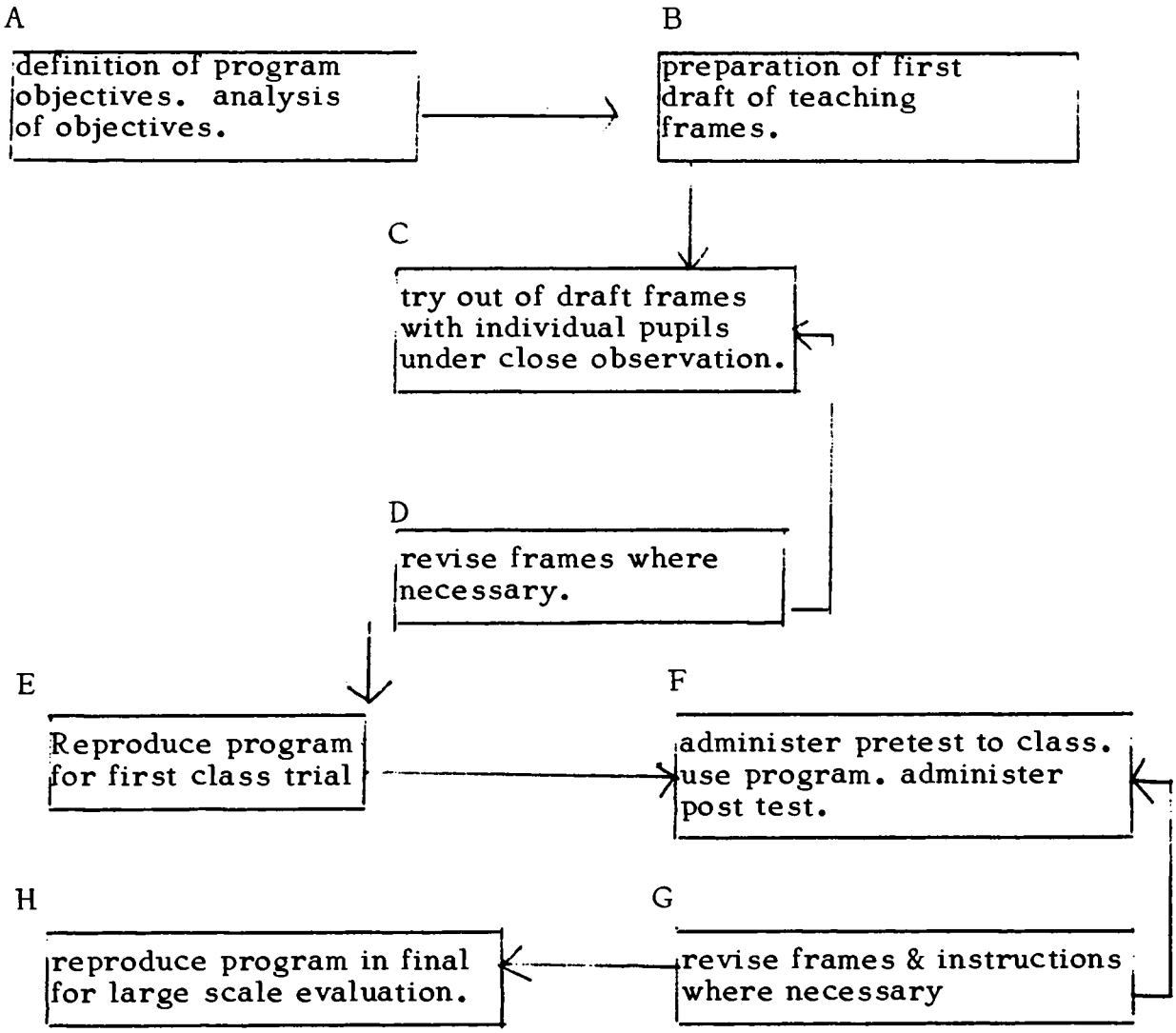
(1) by integrating practical activities with the paper and pencil learning from the programmed text. In two physics programs experiments were done by pupils at intervals and as was appropriate to the learning sequence. In a geography program pupils modelled contours in clay. In a sequence on seeds pupils were required to make close observations of specimens.

(2) by requiring pupils to report at intervals for the checking of tests at the end of sections of the programs.

It is undoubtedly true that many of the programs which were tried turned out to be quite unsuitable for the Nigerian pupils. The examples chosen and the language used were often unsuitable - though not necessarily any more unsuitable in this respect than many of the school textbooks in regular use, and the use of some was discontinued because it was obvious that pupils could not obtain any real benefit from continuing with them.

Design of Project Programs

Five programs were produced and four were used in large scale evaluation. The topics chosen had to match the abilities and interests of the programmers and the availability of schools to try out programs in given topics. The programs used were on Polygons and Parallel Lines in mathematics and Osmosis and Water Relations of Plants in biology. In their preparation all were subject to the same process of try-out and revision with a number of individual pupils and then with one or two class groups. The stages are shown below:



The class trials for the first program were done with a duplicated form of the program but for all the others the programmed frames were put onto overhead projector transparencies and used in an externally paced fashion rather than allowing every pupil to proceed at his or her own rate. The reasons for adopting this approach were: (1) it was cheaper and quicker to produce the transparencies than to duplicate and assemble booklets; (2) the programs required pupils to manipulate shapes or examine specimens, and it was easier to supervise these activities and note difficulties and any need for change when all the pupils were at the same stage; (3) where two class trials were conducted on consecutive days it was relatively simple to alter the frame sequence on the basis of the first trial and thus try out a revised version with the second class.

In the final form the programs were duplicated using an ink duplicator on foolscap paper and were supplied with full details of the objectives and method of use, the materials required and a brief account of the trial results. Answer sheets were supplied for use in the program

evaluations so that the research team obtained feedback on the responses of pupils to individual forms and sections of the programs.

The earlier work with the published programs suggested that the programs should be designed to investigate a number of specific features: (1) Because of the obvious concern of pupils about the provision of answers in the programs and the ease of cheating it was decided to produce programs in versions with and without answers, with only some answers, and with answers embedded in frames and not specifically labelled as 'answers'. (2) It had been observed that pupils had difficulty with certain forms of constructed, completion-type responses,and in one mathematics program versions were prepared which were (a) mainly multi-choice; (b) mainly constructed response; (c) an 'optimum' mix of multichoice and constructed. (3) Not all schools had facilities for pupils to do practical experiments, or were willing to allow practical work below the certificate year, and so the biology programs were provided with simulated paper and pencil practicals based upon photographs and drawings. The intention was to see how far pupils suffered from the use of these compared with actual practical work.

Results of Using Project Materials

In nearly all evaluations the programs produced a significant amount of learning but there were big differences between schools both in amount learned and in starting levels. None of the programs enabled all the pupils to achieve all the objectives but many of the pupils did not have all the necessary prerequisites.

The programs did not consistently increase or decrease within class heterogeneity. There was no obvious levelling-up effect. One program might appear to accentuate class differences and another reduce them. The changes that were brought about were undoubtedly due to factors other than could be attributed to features of the programmed sequences. In some cases there were consistent differences between the performance of boys and of girls.

The experimental investigations of the effect of providing answers to the programs provided significant differences within schools between the versions with answers and without answers but no consistent pattern of differences. There were significant interactions between the provision of answers and the form of responding (multichoice versus constructed), and between the provision of answers and the provision of practical experience; but differences between schools as to the nature of this interaction. Thus, though these program variations and the modes of answering or methods of use were important determiners of pupil achievement, they themselves interacted with school factors such that there were no general conclusions to be drawn.

From attitude questionnaire data it appeared that the programs were favourably received. Differences were observed between pupils which could reflect the relative convenience of the programs. The most notable feature of the attitude data was the concern about the answer provision. Though there was no significant relationship between the provision of answers and achievement there was an obvious one between the provision of answers and 'cheating', and the provision of answers and pupils' concern about the ease of cheating.

It was concluded that in addition to the undoubted effect of the quality of the programmed materials the following five factors had an important influence on their successful use:

(1) Second language difficulties: The performance of the pupils on the program post tests were correlated with the scores on a test of English sentence structures,and it therefore seemed possible that programs which used completion items were liable to induce the acquisition of mere verbalisms, vocabularly without content. The pupils viewed the Project programs as easier to read than conventional textbooks.

(2) Problems of acculturation and vocabulary: Second language vocabulary is notoriously narrow and words have a very small range of meanings. Thus many of the 'prompting techniques' that were originally used in programming are ineffective. The correct interpretation of photographs and diagrams could not be assumed. During the development of the Parallel Lines program pupils had difficulty in manipulating templates and in relating a small labelled diagram in the program to a larger version on a worksheet, and both to an even larger image projected on a screen. It may well be that the observed lack of significant differences between the 'practical' and 'nonpractical' uses of the biology programs were a reflection of the pupils' lack of experience in making observations from both real apparatus and diagrams.

(3) Pupils' study habits: Where pupils are used to equating learning with the rote memorisation of written material and of competing for answers, it is unlikely that the provision of answers to frames will necessarily facilitate learning. Unfamiliar layouts would appear to have an effect on the rate of working,and any future programming in developing countries must consider format. There was no evidence that the use of selfpaced programs reduced the time taken to teach a topic; the reverse would seem likely unless a style of presentation is developed which de-emphasises the need to recall factual content expressed verbally.

(4) (The teacher population and the methods of teaching: In no school could it be guaranteed that the arrangements made for the use of a program would be allowed to continue uninterrupted. In no school could it be guaranteed that the teacher in charge of a class would occupy the same position one or two months later,and,thus,the most important influence on a pupils' academic achievement was probably not the quality of the instruction. The lack of consistency in class population and organisation increases the disparity between the good and poor pupils which the programs tend to increase still further. Thus,a teacher who was relatively inexperienced or worried about

discipline was likely to be unhappy about the selfpacing and individualising nature of the programmed instruction.

(5) Pupil socioeconomic background and the stability of the pupil population: There is an obvious close relationship between the attendance, the attainment on the programs and the home background of pupils. The effect of this is likely to be most marked in the more heterogeneous classes which are more usually in the poorer schools where time-tables are most frequently disrupted and where teachers with experience and ability are most scarce.

In conclusion,therefore,the optimism of Schramm and others which typified opinions at the time of the promotion of the Project was found not to be justified,in that the problems of implementation were human and not merely directed by the patterns of education,and, as is reported elsewhere (Roebuck, et al., 1972), the need is to match the programmed instruction to the teachers and pupils as they are not as we would like them to be.

This brief report merely touches upon some of the findings of the research conducted by the team at Ibadan. Expanded comments on aspects of the work are available elsewhere (Roebuck 1968, 1970, 1972),and the author will be pleased to supply further information to interested persons. In writing this description of the work the author is very much aware of the debt owed to his colleagues in Ibadan, S.O. Adewakun, T.A. Balogun and T.N. Omotoso,and to the Overseas Development Administration and the University of Ibadan for the help received during the duration of the Project.

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NATIONAL UNITY AND INTERNATIONAL UNDERSTANDING THROUGH CURRICULAR AND EXTRA-CURRICULAR ACTIVITIES

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Summary

Reference: Vol.2 (1969) F14 (p.70-72)

The report describes a project aimed at promoting a sense of national unity and international understanding among pupils of primary, secondary schools and students in teacher education institutions through a variety of programmes, group and individual activities, teaching materials in the classroom, exchange of ideas in the arts, and organisations such as Red Cross, Scouts and Guides and clubs. It was difficult to apply common evaluation techniques to the project, but by the criteria of interest, knowledge and enthusiasm, which the pupils showed, the study was considered a successful one.

Report

(This project was conducted by the SITU Council of Educational Research, Madras-28 India with financial assistance from an annoymous donor routed through the World Confederation of the Organizations of the Teaching Profession. S. Natarajan was the Director of the Project, M. Duraiswamy, Project Officer, and G. Srinivasachari Consultant.)

Objectives: The objectives were to help students to acquire an understanding and appreciation of:

(a) India's cultural heritage with its diversity in respect of religions, beliefs, ways of living etc.

(b) the various geographical, economic and social factors influencing the life of the people.

(c) the impact of scientific and technological development on peoples with different cultures and civilizations, thus, bringing them together.

(d) their responsibility to the nation and the world at large.

(e) basic human values.

Design: The above objectives were sought to be achieved through a variety of curricular programmes, group and individual activities, teaching materials for use in the classroom, exchange of ideas regarding fine arts, drawing, painting, music and dance, utilisation of Scouting, Guiding, Red Cross Organization, Pen Friends, Clubs,etc.

Participation in the project: The participants included all types of schools from the rural elementary to the urban high school.29 schools including two training colleges from the city of Madras and 25 other institutions including a few teacher education institutions, spread over 7 districts in Tamil Nadu, offered to participate in the project out of their own free will and choice. Boys and girls of different age groups from the nursery to Standard XI (equivalent to Matriculation) were involved in the project. This was a total programme in which all teachers belonging to different cadres were active participants.

Instructional materials: Subject committees gave detailed suggestions for implementing the programme. Two seminars of the participating teachers were held; the first was for planning the programme, and the second to develop the programme in the second year of its working. Subject committees showed how the department syllabus in each subject could be used for the development of attitudes necessary for international understanding. Participating institutions were advised to write to the departmental authorities and other agencies for relevant audio-visual aids and also to improvise aids as and when necessary.

Teacher orientation: There were pre-service and in-service orientation courses. Two officers of the Council paid periodical visits to some participating schools which needed guidance on the spot.

Communication, co-ordination and co-operation: A Monthly journal called 'Educational Experiments and Research' was started in January 1969. This served as a medium of communication between the organisers of the project and the participating teachers. This was also a medium for exchange of views and information about project work. The proceedings of subject committee meetings and of the seminars and the workpapers considered by them were published in the journal, besides articles on integrated instruction and inter-disciplinary cooperation.

The project had the support of the Government of Tamil Nadu and the National Council of Educational Research and Training, New Delhi. The Advisory Committee included their representatives. Several Extension Departments attached to Training Colleges in Tamil Nadu organised week-end courses on National Unity and International Understanding. The Tamil Nadu Teachers' Union, the Society for the Promotion of Education in India, the Association of the Mathematics Teachers of India, the Association of Geography Teachers of India and the Association for the Promotion of Science Education actively cooperated with the Council in working out the project. The Press in Madras gave generous publicity to the programmes of the Council.

Specific methods: Participating schools were allowed freedom to choose their own method, keeping in mind the spirit of the project. The Council advised teachers to make good use of the procedures suggested for Library Centred Teaching and the Reading Habit Competition. Investigations, group work, plays, concerts, school magazines all afforded opportunities for developing team spirit and a spirit of cooperation. Direct exchanges between pupil and pupil, class and class, school and school were encouraged to awaken and sustain students' interest in the project. In some schools direct contact of students with visitors from other parts of India as well as from other countries helped to broaden the students' vision.

A five-day State Education Camp (October, 12-16,1969) was held at Madras.

Evaluation: A project aiming at the cultivation of desirable attitudes does not, like knowledge, admit of evaluation by means of tests; nor can the depth of assimilation of new values be quantitatively measured. From the point of view of research it is difficult to apply common evaluation techniques to a project of this type.

This project is a comprehensive effort to promote a sense of national unity and international understanding among pupils of primary, middle and high schools and also teacher education institutions. Our criteria for evaluation are:

1. Students' reaction as revealed by reports and by the observations of the project officers who visited the schools

2. a) Teachers' reactions and the tasks accomplished by them

   b) Parents' reaction

3. The extent to which classrooms were opened to the world outside

4. Interest evinced by the educational authorities and teachers' associations

5. Interest shown by the public as revealed by the Press and The All India Radio, Madras

Findings: The results obtained in general may be stated thus: Though the participating schools implemented the project with varying degrees of enthusiasm, and followed different methods, the attempt in the main yielded positive results, and the beneficial influence has gone beyond the class and the school, drawing the attention of the educational authorities and the public.

Pupils in the primary, middle, and high schools welcome the opportunity to lean about the peoples of other countries and about the people living in different parts of their own country.

Their curiosity is roused stimulating them to self-effort for gaining knowledge. They are receptive to ideas and information relating to national unity and international understanding.

Judged by our criteria of evaluation we may claim that the project has been successful, though we must own that in some schools enthusiasm flagged in the second and third year of the project chiefly because of the extra work involved in the project.

PART 11

READINESS FOR ABSTRACTION

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Summary

Reference: Vol.3 (1970-71) F2 (4) (p.61)

Abstract concepts are frequently represented by symbols or mathematical expressions, and until students are familiar with this technique of representation and have had practice in it they will find the process confusing and artificial. There is evidence that the process is difficult for children at all levels in the territory. One experiment asking children to make a map of their journey from home to school showed good sense of direction but little of specialised and selective representation that mapping entails.

Another experiment for identifying and recording the number of dots on a card with symmetrical arrangement (triangles, squares, hexagons) showed that the majority of children at all levels did recognise the advantage of using symmetry patterns over individual counting.

The third experiment required children to use an abstract strategy to pair 5 and then 6 colours. It seemed difficult for them to appreciate the function of a strategy as an abstract operation. It was observed that in every instance the children in urban areas performed better than those who lived away from the towns. This raised the question:
Are the particular examples and applications of science used in schools more familiar to urban children, and, further, would it be possible to develop science syllabi at primary and secondary levels which would be associated more closely with a rural setting in agriculture, forest or seashore settings?

Report

Introduction

During a visit to Papua New Guinea extending from April to September, 1971 an attempt has been made to assess the readiness of upper primary school children to make use of abstractions in understanding or representing real things. Experiments were carried out and information obtained in a number of schools distributed in several parts of the Territory. A full analysis of the data obtained will take some time, and their interpretation must await the collection of similar data from schools outside the Territory,

in particular schools in Australia and the United States. While the conclusions stated here appear at present to be well founded, they remain open to revision during the course of further study.

Experimental Method

An important technique of science which often gives difficulty to beginning students is the use of abstract concepts to isolate specific attributes of a system or phenomenon, thus allowing the scientist to replace the real system with an idealization which is easier to understand. Abstract concepts are frequently represented by symbols or mathematical expressions. Until the student is familiar with this technique and has himself had practise in the use of symbols, he is likely to find the process confusing and artificial. It seems to lead away from the real phenomena into an artificial world of symbols and equations which of course he can memorize but which tend to lose connection with reality. There is considerable evidence that this process is a source of difficulty for Territory students at nearly all levels. The present investigation is an effort to learn how children in the upper primary levels use abstractions and hopefully to suggest ways in which they can obtain practice that will help to increase their skill.

An example of an abstraction or scientific model is a map. It represents a real geographical region yet it does so selectively, omitting much which would be confussing or unnecessary and reducing much of what is included to conventional symbols. A map is a very flexible kind of model which allows a given domain to be mapped in a great variety of ways depending upon the particular information that is to be represented. One of the experiments carried out here was to ask children to make a map to show "how you go from your house to the school." After the children had completed their maps the experimenter showed them some different sorts of maps, pointing out examples, which were usually present in the school room, of road maps, political maps, physical maps, etc.. Following this he explained another sort of map which could be used to represent a distribution or population density. He sketched an example of such a map on the blackboard to show how one could represent the distribution of pigs in and around a village. In doing this he made a point of using symbols instead of pictures and explicitly pointed out their advantage in saving time. A few days later the same children were asked to sketch maps of the school grounds showing where the children are likely to be found during recess. In this case the children were told in advance that their time would be limited so that their work was under some pressure of time.

Another experiment made use of a set of large flash cards on which dots are placed in sets of symmetrical arrangements (triangles, squares, or hexagons.) The children were asked to identify and record the total number of dots on a card which they were shown for long enough for easy identification of the symmetrical patterns but for too short a time to make it easy to count individual dots. From their recorded numbers one can distinguish whether they were identifying the patterns and using simple multiplication or whether they were trying to count individual spots. In addition one can measure the accuracy with which they multiply numbers ranging between 3x3 and 4 x 6.

A third experiment was used to see how easily children can understand and use an abstract strategy with which they are not previously acquainted. Using coloured chalks, five different colours were shown on the blackboard and several different pairs of colours indicated, (red and blue, green and blue, green and yellow, etcetera). The children were then asked how many different pairs is it possible to make using five colours. After they had taken

time to think about this question and try out, usually at randon, various answers, a specific strategy was demonstrated which would easily determine the answer. The strategy was carried out in detail with each step demonstrated and explained. After this the children were asked how many different pairs it is possible to make using four colours . After they had given their answer the same strategy was demonstrated, again in detail, using four colours, and the children were then asked how many pairs it is possible to make using six colours.

Schools were selected in the Eastern Highlands and East Sepik Districts and in Port Moresby to include both urban and rural populations and to include some schools which have been using the new TPPS Primary Science Syllabus and some which were not yet using it. All testing was conducted in English and most of the tests were carried out in whole class groups in order to avoid difficulties due to the children's possible shyness in responding individually to a foreign visitor.

Results

The maps drawn to show the familiar route from home to school usually indicate a good sense of direction and very satisfactory skill in representing directional relationships. A few children failed to show directional relationships at all and a very few show them incorrectly, generally in the form of a mirror image. Nearly all of the maps are drawn using pictures of houses, trees, the school, etc with only a small minority using symbols other than recognizable pictures. Most of the maps include many unnecessary details put in for decoration, sometimes adding greatly to the attractiveness of the representation, but occasionally requiring so much time as to interfere with the actual objective of the map (for example when houses are drawn including all the detail of cesspit, roofing, etc.).

The maps which intend to show the distribution of children on the school grounds during recess usually fail to do so. Most commonly they show the school ground, again in pictures, and include pictures of a few children outside the classrooms, but usually too few are shown to give a concept of distribution. Not infrequently so much time was absorbed in drawing pictures of the buildings, trees, flowers, etc that there was not time left to show where the children would be. This in spite of the fact that the children were warned that their time would be limited, and again warned when their time was half gone. Some maps give a satisfactory representation by including very many pictures of children properly distributed and some, a small minority however, use symbols to represent a distribution in the manner that had been demonstrated to them earlier. A few include picture maps of the school ground and then describe the distribution in written words.

The experiment using flash cards indicates that at all levels a majority of the children recognize the advantage of using symmetry patterns over individual counting. This majority range from about 75% in some fourth standard classes to 100% in some sixth standard classes. In spite of this the number of errors in multiplication is very high, frequently more than 50% among fourth standard classes and often exceeding 30% among sixth standard. The error rate is rarely below 20% at any level. This is true in spite of the fact that the children were allowed as much time as they wished to arrive at their answers. Doubtless their accuracy would be considerably higher in a context limited to a lesson in oral arithmetic or recitation of the multiplication tables, but there would seem to be some question of their readiness to use multiplication apart from that context.

It proved to be very difficult for the children to appreciate the use or purpose of a strategy in the problem of pairing colours. All could understnad that the numbers of different pairs is limited, and all appeared to be very interested in finding the answer for any given number of colours but it seemed to be very difficult for them to appreciate the function of a strategy as an abstract operation that would work for any number of colours. Many were unable to use the strategy or understand its purpose even after three complete demonstrations, each time carried out in detail and fully explained. It would seem that the concept of a strategy as a procedure that could be carried out in abstract form and then applied generally was quite new to them. In many classes there were two or three children who were quick to follow the reasoning. However, these few stood out as isolated instances. Independent evidence from reading and from individual interviews suggests that the concept of a theory or strategy of understanding is absent or not well developed generally within the Territory peoples. This is a larger topic which should be treated separately, but the present experiment would seem to support that finding.

Discussion

Although the maps made by the children make very little use of symbols their excellent sense of direction and the skill with which pictures are executed suggests that it would only be a matter of practise and rather simple instruction for them to make excellent maps of a known route. It is natural for children to want to include everything that they can think of as possibly contributing to their representation. It is evident that they do get practise in drawing pictures, and it is obvious that they enjoy doing so, but there is very little evidence of the more specialized and selective representation that mapping entails. This is true even in schools using the new primary science syllabus. Exercises that involve classification or sorting, such as classification according to size, weight, etcetera, can easily lead to graphs which are first constructed physically by laying the classified objects in an appropriate array on the floor or on a table, and later the graph can be reproduced in symbols on paper. Within the context of lessons dealing with plants or animals, soil, or land forms, it would not be difficult to introduce some mapping exercises. These might start with very simple maps of the school ground or even of the school room in discussion of which a point is made of what is omitted from the map and why the omission of some real objects that are not themselves of interest makes the map easier to read. Further discussion and practise can show the way in which the use of some conventional symbols shortens the time required to make a map and renders it both more general and easier to read. A series of such exercises taken at appropriate times through the syllabus could finally lead to practise in much more sophisticated sorts of representation. Practise of this sort should serve an important role in developing skills that will be of great importance as the children later on become involved in more difficult and more abstract aspects of science.

The difficulty experienced by the children in trying to understand a strategy of pairing suggests the possibility of introducing puzzles once in a while or games of strategy as recreations which might tempt the children to use them at home or on the playground with their friends. An infrequent intervals, perhaps when one of these has caught the fancy of the children, it could be discussed within the classroom and the strategy involved worked out and illustrated. It might also be useful within the present science syllabus to make a point occasionally of the strategy of observation or explanation that is used. Why is it that certain things are observed and not others? After children have made certain observations they might be induced to consider which technique of explanation or representation will be most useful and then to see why this

would be so.

In comparing observations taken at various schools with each other the most striking relationship is the contrast between urban and rural populations. In nearly every instance the children in the urban settings perform better and are quicker to learn than those who live some distance away from a town. In itself this is not very surprising. Even a moderate sized town provides a much wider variety of experiences and perhaps a greater complexity of relationships both physical and social. It is reasonable to expect that this would help to prepare the children for new ideas. In some cases also it may be that the urban schools have been there longer and are more closely integrated into the thinking of the community and of the children's parents. While it is easy to explain the observation in such terms, it does, nevertheless, raise some questions. Are the particular examples and applications of science used in the schools such as would be more familiar to urban children? Will this lead to greater success on the part of town and city children which in turn will further encourage the drift toward cities that is already present? It is possible that the manner in which science is taught as well as its technological implications are an important factor in producing an urban drift. This raises a further question as to whether, if it should be desirable, it would be possible to develop science syllabi at least at the primary and secondary school levels which would be associated more closely with a rural setting, making use of examples and applications primarily drawn from agricultural, forest or seashore settings.

The project has had the support of the Australian American Educational Foundation, the University of Papua New Guinea and the Papua New Guinea Department of Education.

CLASSIFICATION SKILLS IN NEW GUINEA CHILDREN

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Summary

Reference: Vol.2. (1969) C2 (p.20-21)

The study was undertaken to discover whether material developed to evaluate classification skills in Australian children could be successfully used with indigenous children in Papua - New Guinea, and to examine some general expectations about the comparative performance of the children.

The performance of groups of 5 years old, 7 years old and 9 years old children of state schools in Melbourne was compared with the performance of their counterparts in Papua - New Guinea, and the performance of New Guinea urban groups was compared with their counterparts in rural schools.

The result showed that the material used (i.e. wooden rods different in colour, height and diameter to be arranged in various ways) was suitable for use with the group of New Guinea children, but, because of variety of languages and tribal groups in the territory, it might not necessarily be suitable for other groups. The result did not support the view that urban New Guinea children performed better than rural children in the same culture.

The study is an example of the kind of investigation of specific abilities which might be undertaken by those interested in cross-cultural comparison.

Report

From an examination of the work of Inhelder and Piaget (1964) and Bruner et at. (1966) the present writer concluded that there was a need for a short unambiguous test of classification skills suitable for young children, which could be administered in a standardised fashion and scored objectively. The test which resulted uses a set of twenty wooden rods, varying in colour, height, and diameter. In each of the six items, two mutually exclusive groups of rods, differing from each other on a single attribute, are placed in front of the S, and he is told to make two different groups. The E defines the two required classes by placing as clues two rods which differ on a single, different, attribute. When the S completes his grouping, he is asked to state in what way one group of rods differs from the other. Two scores can be obtained for each S: R Only, the number of items on which the S correctly grouped the rods, and R+E, the number of items on which he combined a correct grouping of the rods with an adequate explanation of his grouping.

The test was administered, as one of a battery of five, to 180 Ss randomly chosen from pupils attending a large state primary school in Melbourne: sixty 5 year olds, sixty 7 year year olds, and sixty 9 year olds; half of each age group were boys, and half were girls. Detailed results are reported elsewhere (Nixon, 1971 a,b).

In Summary, (i) For R Only, the 7 year olds performed significantly better than the 5 year olds;

the 9 year old girls performed significantly better than the 9 year old boys;

(ii) For R + E, the 7 year olds performed significantly better than the 5 year olds;

the 9 year olds performed significantly better than the 7year olds;

again, the 9 year old girls performed significantly better than the 9 year old boys.

(See Table 2)

A fair number of 5 year olds who produced correct groupings were unable to provide adequate verbal explanations (discrepancies of 14.44% for boys and 9.45% for girls, over all responses). By contrast, on only one item did a 9 year old fail to give an adequate explanation for a correct grouping. The difference in discrepancies from 5 to 9 years indicates that skill in verbal explanation improves more rapidly over these ages than do the skills required to produce a correct grouping of objects.

A number of studies of classification skills (Bruner et al. 1966) suggest that differences may occur as a function of place of residence, urban children being superior to rural children. Theoretically this has considerable plausibility. If human beings increase their ability to deal with their surroundings by linking themselves to external implementation systems (tools, recording and communication devices, language, theory, and myth), as Bruner argues, then dwellers in urban surroundings might be expected to have greater opportunities to establish such links than those who dwell in less differentiated, rural, communities. Related evidence (e.g. Bruner et al. 1966; Price-Williams, 1962; Vernon, 1969) also indicates that children in more highly 'developed', that is, industrialised, cultures perform better on classification tasks than children in relatively under-developed areas.

From a consideration of this evidence, the following expectations arose concerning the performance of Papua-New Guinea children on the classification test:-

(i) that Papua-New Guinea children would perform less well than Melbourne state school pupils;

(ii) that urban Papua-New Guinea children would perform better than rural Papua-New Guinea children.

Since a sex difference had appeared in the Melbourne results, it was considered necessary to examine this aspect of the Papua-New Guinea children's performance also.

Hundreds of different languages are spoken in Papua-New Guinea. However,

since all teaching in Territory schools is in English, it was decided that all testing would be undertaken in English. Since little is known about how the many different indigenous languages differentially influence the learning of English, a group with a common mother tongue was sought from which subjects could be selected. The group chosen was the Tolai people, living in Northern New Britain around Rabaul, whose mother tongue is Kuanua. Few Tolais live right in the town of Rabaul, so a Territory Primary school close to the urban area, and one remote from the town (about fifteen miles away) were selected from which subjects could be chosen. The urban contact school had an enrolment of 460 pupils, the rural school had 422. Both schools had Australian headmasters and predominantly indigenous staffs.

The study was carried out in February, which is the begining of the school year. Subjects, all in Standard 3, were selected from the pupils who had performed best in the final school tests at the end of the previous year. Numbers and ages are shown in Table 1

Table 1 Subjects

	Urban		Rural	
	M	F	M	F
N:	10	10	10	10
Age range in years:	7-12	8-11	9-12	9-14
Mean age:	9.35		10.8	

No great confidence should be placed in the ages given; it appeared that the headmaster at the rural school had compiled his records from missions and all other available sources with great care, and they were probably more accurate than those from the urban school, where a good number of school records had recently been destroyed.

Only one slight modification in testing procedure was needed. In the Melbourne work, after S had grouped the rods, E asked, "How are these rods different from those?" New Guinea Ss answered this by saying , 'Yes,' so another question, 'What are these?' (repeated for each group of rods) was substituted. Ss gave single word answers much more often than phrases or sentences. The items were administered in random order, preceded by the introductory session and practice item used with Melbourne children.

Both schools reported that fewer girls than boys were sent to school, education being considered by parents to be less necessary for girls than for boys. The rural school reported that the boys in Standard 2 in the previous year had performed much better than the girls in school work.

Results

Table 2 Mean Scores from New Guinea and Melbourne Studies

		R Only	R + E	N
Urban New Guinea				
	Mean	4.80	4.20	
Male	SD	0.98	1.17	10
	Mean	5.10	4.20	
Female	SD	0.70	1.33	10
	Mean	4.95	4.20	
Total	SD	0.87	1.25	20
Rural New Guinea	Mean	5.50	4.50	
Male	SD	0.81	1.30	10
	Mean	5.30	4.10	
Female	SD	0.64	1.58	10
	Mean	5.40	4.30	
Total	SD	0.73	1.45	20
Melbourne				
5 year olds				
	Mean	4.40	3.68	60
	SD	1.14	1.51	
7 year olds				
	Mean	5.28	5.10	60
	SD	0.98	0.72	
9 year olds				
Male	Mean	5.27	5.27	30
	SD	0.79	0.79	
	Mean	5.83	5.80	30
Female				
	SD	0.55	0.54	
	Mean	5.55	5.53	60
Total				
	SD	0.72	0.76	

Because of the wide range of ages in the New Guinea group, and their probable inaccuracy, direct comparison with the Melbourne results was not undertaken. However, the New Guinea means fall around those of the Melbourne 7 years olds for R Only, and for R + E between the 5 and 7 year old Melbourne means. As Table 3 shows, all the distributions are nagatively skewed; the test was rather too easy.

Table 3 Distributions of Scores

	R Only				R + E			
	New Guinea	Melbourne			New Guinea	Melbourne		
x	f	f5	f7	f9	f	f5	f7	f9
6	17	10	31	40	9	5	31	40
5	14	23	19	14	9	18	15	13
4	8	11	7	5	11	10	7	6
3	1	13	1	1	6	14	3	1
2		3	2		4	7	4	
1					1	5		
0								
N	40	60	60	60	40	60	60	60

Distributions of scores for male and female New Guinea Ss were dichotomised and compared by means of x^2. The differnces are not significant, and Table 4 shows how similar the distributions are.

Table 4 Comparison of Male and Female Scores (New Guinea)

	R Only		R + E	
Scores	M	F	M	F
4-6	19	20	14	15
0-3	1	0	6	5

Distributions of scores, dishotomised, for rural and urban New Guinea Ss, are shown in Tables 5. The differences are very slight, and x^2 values are not significant.

Table 5. Comparison of Urban and Rural Scores (New Guinea)

Scores	R Only		R + E	
Scores	M	F	M	F
4-6	19	20	14	15
0-3	1	0	6	5

Discussion

Like the Melbourne children, the New Guinea Ss, grasped the requirements of the test quickly and appeared to enjoy it. Results show that it was suitable for use with this group of New Guinea Ss, but because of the Territory, any conclusion about its use with other groups would necessarily be tentative. In the form used in this work, the test was rather too easy to explore the limits of the groups or to show differences between the groups. Work in progress is aimed to extend the scoring system to overcome this. The tester quickly became aware that qualitatively the New Guinea Ss differed from the Melbourne Ss; The New Guinea Ss were more different and less exuberant, and much less ready to discuss the task. These differences probably reflect the difficulties of doing an unfamiliar task in a language other than the mother tongue.

On their face value, the results do not support Bruner's (Bruner et al. 1966) finding that urban children perform better than rural children in the same culture. However, if the New Guinea ages are accepted as approximately correct, it appears that the Melbourne 9 year olds performed at a somewhat higher level than the New Guinea Ss, which would be compatible with the hypothesis at least. At the same time, the rural New Guinea children gave the impression of being more competent, spontaneous and outgoing, and less self-conscious, than their urban fellows. Table 1 is a reminder that the rural Ss were apparently older than the urban Ss, and this alone may account for the absence of a difference in performance. Another possibility exists, however; since the urban people are in close contact with the complex European culture of the town, it is possible that the children were reluctant or unable to use the traditional tribal modes of responding to new demands, and that consequently they were less competent in dealing with a new situation. The rural children, being more remote from a new and more complex culture, may have been less affected by it and still able to respond adequately to the challenge of a new task. It should be remembered, however, that differences in performance were not marked, and were mainly qualitative. Speculations concerning their origin need to be tested empirically.

Generalisations should not be made from such a small sample of data. However, this study is perhaps an example of the kind of investigation of specific abilities which Vernon (1969) suggests might be the proper concern of those who are interested in cross-cultural comparisons.

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DEVELOPMENTAL NORMS OF INDIAN CHILDREN
2½ YEARS TO 5 YEARS

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Summary

Reference: Vol.2 (1969) J6 (p.121)

The Indian population is young: 50% under 18, 17% under 6. Each child is unique, having its own rate of development in motor abilities, language, and personal-social, or adaptive behaviour, and following its own course of development depending upon the interaction of different variables - education, health, nutrition, educated mother, etc. In India the gulf between children in rural and urban areas and children in industrial areas, and in varying grades of society is widening. Climatic conditions, social values, customs and traditions of the family and community also influence a child's development, and in India where these vary so widely no borrowed pattern can be applied to understand the Indian child.

The study made of children at centres in Calcutta, Bombay, Madras, Allahabad, Ahmedabad, Hyderabad, and Delhi in adaptive language, motor, personal and social development was designed on the lines of Gesell's developmental schedules, modified for the purpose. It showed urban children to be advanced in all the characteristics, except play and detachment, in which the children in the industrial areas excelled. The rural children were disadvantaged in every respect.

The report recommends pre-school education at this the most critical period of the child's development, notwithstanding the high cost to the country, and its limited resources.

Report

The children in India grow and develop in surroundings that vary enormously. A large section of these children grow up in the traditional rural settings that deprive them of the privileges and amenities to which children in the relatively modernised urban settings are exposed. In the field of education, health or nutrition or in terms of educated motherhood, there is an ever increasing gulf between the children in the rural, urban, semi-urban, or semi-rural settings or in varying grades and sections of the high, middle or low standards of social living. All these factors are significant in the matter of the development of the child.

India's population is relatively very young. About 50 per cent of the population falls in the age group below 18. This broad base of the age-pyramid of India has been steady since 1921. Children in the age-group under 6 constitute 17 per cent of the population.

Children are a nation's wealth and no society can afford to neglect them. Each child is a unique being and follows its own course of developmental cycle depending upon the inter-action of different variables. Even in the case of the same child, rate of growth in different aspects may vary widely; e.g. a child may be well developed in motor abilities but not yet so in language, personal-social or adaptive development. Yet developmental processes follow a consistent course and every individual normally passes through each major stage of development. Nevertheless, absence of stimulation from the environment, poor health, malnutrition, or lack of incentive from adults may retard the normal rate of development. Climatic conditions, social values, customs and tradition of the family and community in which the child lives also influence the developmental pattern of the child. It, therefore, becomes clear that the data borrowed from elsewhere cannot be applied to understand the developmental pattern of children in India. The present project was, therefore, started to elicit this much needed basic data on the developmental pattern of Indian children. These basic data should pave the way for major changes in the programme of schooling, as a suitable curriculum can be planned only if we understand the level and pattern of development of the child. It was proposed to start the present project from the age of $2\frac{1}{2}$ as it is at this age that the child is first exposed to schooling. An organised agency like the pre-school can reach the child at this stage and it may be possible to accelerate the rate of development of the child through a stimulating school programme. There is also sufficient research evidence to prove that rate of development, particularly intellectual development, is extremely rapid during this stage, and that the child derives maximum benefit if stimulation is given at this stage. Moreover, it is the base on which the whole schooling programme is based, and so for improving the school programme it is most desirable to start from the base. It was, therefore, decided that the present developmental studies should start from the age of $2\frac{1}{2}$.

As the growth of the child is in several directions, it was felt that it is not justifiable to arrive at one simple final quantitative index of growth. What is wanted is the pattern of development, and in order to get at the pattern it was decided to design the study on the lines of Gesell's developmental schedules which provide qualitative evaluation covering major basic areas of development.

The main objective of the present developmental studies is to understand the growth and development of children and to know the processes involved in the growth in the context of Indian conditions. In particular, the aspects studied are:

Adaptive development

Language development

Motor development

Personal social development

A second objective is to study the effect of environmental deprivation on the rate of development. A large majority of the Indian children live in terribly underprivileged conditions. They lack basic amenities such as food,

shelter and clothing, they receive hardly any parental care,and environmental stimulation is almost nil for them. It is proposed to find out what effect such deprivation has on the development of the child.

Another aim of the study is to note the impact of industrialisation on child development. India is rapidly getting industrialised; industrial townships are springing up quickly; children are getting exposed to industrial atmosphere. It is aimed to study if such changes have in any way affected the pattern of development of the child.

Importance of the Study:

The present study gives us the patterns of behaviour for the preschool age-group in different socio-economic groupings. These patterns will be useful not only to the students of Psychology and Education but also to parents at large..... So far we in India have been making use of normative data of other countries conducted in totally different cultural and social backgrounds and have been basing our planning on these studies. In many cases these cannot be valid or applicable to our culture. Indian parents also are without a guide to go by in order to understand the growth at different stages of development. It is hoped that the present study will meet the need and requirement of our society and will give us a better understanding of our children.

Pilot Study:

A pilot study was conducted on 38 children drawn from the school-going population of Delhi, covering the age-group $2\frac{1}{2}$ years to 5 years.

The pilot study had two objectives - firstly, how far is the testing equipment culturally suitable to Indian conditions and to see if it discriminates adequately between different ages,and,secondly, to devise well-organised comprehensive observational record forms for different aspects of development like adaptive, motor, personal-social and language.

Testing Procedures:

The testing procedure has the following characteristics:

(a) It does not consider any operation right or wrong but takes into account the operation as it is, which is termed as the individual pattern of doing a task

(b) The emphasis throughout the testing is on the process of operation and on understanding how these processes undergo changes with the progress in age

(c) The tests and testing procedures remain constant when applied to the varying age-groups of children from $2\frac{1}{2}$ to 5 years. This is done to understand the genesis of growth of different concepts

(d) The tests are not speed tests and children are free to take as much time as they need to complete a task. Time, no doubt, is taken into consideration as a variable in final analysis

(e) The tests are individual tests and the tester generally takes a week to complete the testing of three to four children. However, there are variations,and the speed of testing depends upon the ease with which the rapport is established with the child.

Training Programme:

Before the testing programme was started a month's training programme was organised for the orientation of the field workers. This was considered essential for keeping the instructions uniform at all the centres and to reduce the inter-individual difference of the workers to a minimum level.

Sampling:

Stratified random sampling in a country of India's size with wide diversity in climate, culture and way of life is a complex task. The problem is further aggravated when one considers the wide range of social beliefs, unbridgeable distance in the socio-economic grouping, social control and hierarchy in the caste system, rural-urban differences and levels of education. A large majority of people continue to live in villages and in extreme poverty. It is, thus, neither possible nor practical to visualise a scheme of thought which will distribute the sample with proper weightage to all these factors. In order to meet the situation, at least partially, the study was conducted in different regions of the country covering rural, urban, and industrial samples.

The size of the sample of the study in terms of population of children in that age-group is also significantly small. There was no way out as the entire testing procedure is individual and takes on an average at least two to three days to complete the testing of a single child: and further, in view of the limited time at the disposal (two years and nine months), and meagre resources (Rs. Six lakhs and 35 thousands only) available for the purpose, the sample had to be so restricted. Nevertheless, it is hoped that the problems that will arise out of the study will be taken up for further intensive investigation. The study is of two types (a) Cross-sectional study, and (b) the longitudinal study.

Centres:

The study was conducted at the following seven (7) centres in collaboration with professors of education and psychology:

> Calcutta, Bombay, Madras, Allahabad, Ahmedabad, Hyderabad and Delhi.

Besides studying children in these centres which can be described purely as urban areas, the testing programme included children from the areas in the state which could be classified as purely rural and other areas which could be termed as predominantly industrial areas. Thus in terms of sampling each centre covered the following three (3) variables:

> (a) Urban Sample, (b) Purely rural sample; and (c) Predominantly industrial and semi-urban sample.

Ages:

The study is confined to six (6) age-groups: $2\frac{1}{2}$, 3, $3\frac{1}{2}$, 4, $4\frac{1}{2}$, 5 - the age interval between the groups being six-months and is equally distributed with respect to age and sex. Thus it takes into consideration the two variables of age and sex.

For the sake of convenience the tests are categorised into the different segments of developments, though for all purposes development is always considered as an integrated whole. The categories of tests are, (a) adaptive (b) motor and (c) language development. Besides these the personal-social development of the child is also studied for which there is an interview schedule for eliciting information from the parents, and to add to its reliability teacher's and examiner's observations are also recorded for items that are observable to them.

Adaptive Tests:

"To speak of intelligence tests", according to Gesell, "for the pre-school child is to ignore the true character of behaviour at this age". Adaptive tests, therefore, assess children's ability to modify or alter their behaviour according to the needs and requirements of the situation, and thereby to draw a synthesis between their capacity to initiate and the ability to profit from the past experience. Adaptive tests included in our scale are of the following category:

1. Block Building or Cube Play
2. Form Adaptation
3. Drawing
4. Form Discrimination
5. Number Concept
6. Colour Identification
7. Immediate Memory
8. Problem Solving

Language Development Tests:

Development of language is very important in the pre-school period as it is at this stage that the child for the first time is able to speak freely. Language ability gets gradually integrated with other fields of behaviour by the end of the pre-school stage.

The tests included here are generally those used in the Gesell scale, excepting picture cards and picture books which are selected out of the existing Indian literature. In the case of the other tests it was possible to adapt them into the local language of the child. The original test is in English but uniform translation was made for local purposes. These tests are primarily meant for knowing the degree of understanding the child possesses at different age levels and the levels of abstraction that the child achieves. The language tests used in the present battery are as follows:

(1) Following directions (2) Following preposition (3) Use of objects (4) Naming and identification of objects (5) Action agent responses (6)Comprehension tests (7) Ability to give one's name, sex age and address (8)Ability to distinguish A.M., P.M., right and left (9) Responses to Picture Books (10) Responses to picture cards.

Motor Development:

Gesell divides motor development into (1) Upright Posture, (2) Walking and Running, (3) Prehension and Manipulation, (4) Laterality and Directionality.

In the present scheme of classification we attempt to study, besides these, the total patterns of motor behaviour and how they differ from age to age, and also to understand the critical stage of stabilisation or motor behaviour.

Motor tests can be classified in the following way:

I. Standing, Walking and Running

1) Walking on (a) a straight line (b) on toes (c) with a glass of water (d) backward (e) on walking boards.

2) Standing on (a) one foot (b) with crossed feet and

3) Running.

II. Kicking, Catching and Throwing

1. Undirected and directed kicking of a ball,

2. Catching a rolled ball and ball thrown chest high,

3. Undirected and directed throwing of a ball.

III. Ascending and descending stairs.

IV. Skipping.

V. Hopping like a frog and simple hopping.

VI. Jumping (1) down (2) long jump (3) high jump.

VII. Hand Skills

Threading the beads, cutting with scissors.

Personal-Social Development:

Personal-social development test is done in a different way. There are no tests as in the case of motor development and adaptive development. Here the examiner has a check list in terms of the following aspects of personal-social development:

(a) Eating, (b) sleeping, (c) elimination, (d) dressing, (e) personal hygiene, (f) communication, (g) play activities, and (h) developmental detachment.

This check list is almost the same as that of Gesell's and is filled in through an interview with the mother. In a way it is the mother's assessment of her child. Wherever possible and when the child is also attending a school the teacher's observations on these aspects are also recorded. Both mother's and teacher's reports are supplemented by the reports of the examiner on all items that are observable.

Other variables:

In the urban sample, further stratification is done on the basis of fee-structure and the sample is distributed as follows:

(a) High fee and low fee groups constituted 26.7 per cent each of the sample.

(b) Middle fee group constituted the remaining 46.6 per cent each of the sample.

Similar stratifications for the rural or semi-urban industrial sample are not done as these samples are mostly non-school going.

Sample Size:

Each centre was to cover a sample size of 360 children for each phase-rural, urban, and semi-urban industrial, thus covering a total of 1080 children. The distribution of children in terms of age and sex was expected to be as under:

		Age						
		25	30	35	40	45	50	Total
Sex	B	30	30	30	30	30	30	180
	G	30	30	30	30	30	30	180
Total		60	60	60	60	60	60	360

All the centres could not test the full sample. The actual sample on which the study was done is:

Centre	Urban	Rural	Industrial
Ahmedabad	360	360	350
Allahabad	360	360	360
Bombay	360	360	272
Calcutta	360	360	360
Delhi	356	363	349
Hyderabad	354	356	180
Madras	360	288	170

Longitudinal Study:

The Longitudinal study was designed for purposes of cross-validation of the cross-sectional study and is confined to urban population only. The original plan was to follow up the two and a half year olds of the urban sample. This, however, could not be done and, therefore, a fresh sample was drawn.

Under this programme children are being tested repeatedly at the seven centres at a fixed interval of six months. The sequence of testing is kept fixed. Each child was tested when he/she had completed two years, six months and one day. The forty-two children included in the sample consisted

of 21 boys and 21 girls. All the children belonged to the middle income group. The centres were, however, left free to decide the middle income group according to the local conditions by taking into account the factors of occupation, salary, residence and education of the family.

The total sample at seven centres consists of 292 children, 146 boys and 146 girls. All the centres test 21 boys and 21 girls excepting Calcutta centre where there are 20 boys and 20 girls only.

Analysis of Data:

The primary objectives of the present study are (i) to determine the normative pattern of behaviour of children in each of the age group from $2\frac{1}{2}$ to 5 and (ii) to measure the change in the behaviour as a result of growth. For this purpose about 100 test items were used which are grouped under four parts such as personal-social, motor, adaptive and language behaviour. These tests on the whole can be divided into the following two groups:

(i) Tests where simple frequencies are to be added and the cumulative total considered as representative part of the sample under study

(ii) Tests where steps taken by the individual in the performance of a task will in collective form be taken as a single unit for purposes of inter-individual matching.

The first category includes tests of personal-social development and a part of the adaptive tests such as tests of number concepts, immediate memory, identification tests, following direction, etc. The second category consists of the entire motor schedule of testing and a large part of the adaptive tests.

The first category of tests involves only simple frequency analysis which will give the percentage of children who show a particular item of behaviour. The second category of tests is subjected to pattern analysis. The technique takes into account various aspects of behaviour exhibited by the child in the course of performing a task. Thus the steps taken by the child in performing a task becomes the pattern of behaviour of that child. The objective is to find out those patterns that have the highest frequency distribution and are, therefore, characteristic of an age-group. In this way it is possible to locate not only the oft repeated pattern but a hierarchy of patterns that are found in a particular age-group. In case no one single pattern emerges, then the attempt is to combine two or three patterns together so that a meaningful pattern which is representative of the age group emerges.

In all such combinations and summation of patterns care is taken to see thar the final pattern represents more than 50 per cent of the individuals agreeing with over 75 per cent of the pattern. The patterns thus found are analysed with respect to age, sex and socio-economic groupings.

Summary of Results:

Adaptive Development

The results showed that on the whole urban children were faster in adaptive development than rural or industrial children, whereas the rural ones were found to be slowest. The striking differences between the three groups were

found to be in drawing tests, number tests, colour identification, immediate memory and problem solving. Comparison with Gesell's norms showed that Indian urban children were found to be faster in the development of number concepts, colour identification, comparative judgment and immediate memory, whereas in the other tests they were more or less similar. The inter-centre comparisons showed that children of Calcutta (Bengal) were found to be, on the whole, faster in adaptive development than children from the other regions; whereas those who were comparatively slower were urban children of Ahmedabad, rural and industrial children of Delhi and industrial children of Allahabad.

Personal Social Development

Personal social development also were found to be more or less on the same lines as adaptive development. That is, the skills were mastered first by urban children, then the industrial children and last of all by the rural children. This acceleration shown by the urban children held true in all aspects except play and developmental detachment in which the industrial children were more accelerated. The inter-centre comparisons showed that, generally speaking, children of Madras, Bombay and to some extent Calcutta were found to be slower than children from other centres. A comparison with Gesell's norms revealed that in activities such as self-feeding, taking complete charge of elimination, washing and drying hands, feet and face,and in running errands Indian samples were faster than Gesell's sample. In dressing and communication it was only the urban sample that compared favourably with Gesell's whereas industrial and rural children were found to be slower. In play interests and sleep habits the two samples were found to be totally different.

Motor Development

The main findings of the study are that on the whole urban children were found to be faster in motor development too as in the other two aspects, whereas the rural children were the slowest. The inter-centre comparisons in motor development did not show any consistent differences. A comparison of the present samples with Gesell's study showed that on the whole the present sample proved to be a little more accelerated than Gesell's in the development of most of the motor skills.

Language Development

The analysis of language results also showed the same trend. The differences between urban, rural and industrial children were very striking in the area of language. The urban children were found to be much more accelerated than the other two groups whereas the rural children were found to be the slowest. Like in adaptive development, in language development too, the children of Calcutta were found to be faster than children from other regions. The urban children of Ahmedabad and Allahabad were found to be comparatively slower in language development.

Implications of the Study:

The study showed the wide gap that exists between the urban and rural children of India. One may argue that this is so because the tests were urban biased. Even if it is so (though all efforts were taken to select such test items that were suitable to both the groups), one should admit that the skills assessed in the present battery of tests are essential to be developed in a child before he

enters the primary school. Discrimination of form and colour, rudimentary concepts of number, picture identification and naming, comprehension skills, fine and large muscle skills etc. are abilities without which a child will find it hard to cope with the demands of the primary school. The rural child does not appear to have developed many of these abilities in his pre-school years. As such schooling in early primary classes is bound to be an extremely difficult process for him. This may explain the high wastage and stagnation figures in the early primary classes in India.

The majority of rural children in India are disadvantaged in almost every sense of the term. The stimulation that they receive at home is minimal. Neither do the children have facilities to attend pre-schools where compensatory education may be attempted. Therefore, the net result is that the critical period at which development is at its maximum goes unnoticed.

Considering the rate of growth of Indian economy it is not realistic to expect that problems of illiteracy and poverty will be overcome in the near future. Therefore, the only possibility to give the children the required enrichment is through the pre-schools. However, it is true that finding the required resources for expansion of pre-school education is a difficult task for a developing country like India. Yet in terms of cost-benefit, it appears to be a sound policy of investment.

GEOMETRY, ESTIMATION AND MEASUREMENT IN TRADITIONAL SIERRA LEONE

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Summary

Reference: Vol.3 (1970-71) H20 (p109)

5 old men and 5 old women from each of 5 villages representing 5 different ethnic groups were interviewed. Their ages ranged from 56-68, and they had never attended any western type school.

It was found that people from the subcultures studied were familiar with certain geometrical concepts usually ascribed to Euclid, but they lacked refinement of term and description of plane and solid figures.

They used measurement of time, volume, length and money as related to their daily life activity and experience, but their measures were neither English nor metric. Their estimates of number etc were in relation to the frequency of use of the particular thing.

In conclusion the study points to an approach to curriculum adaptation in mathematics built on society's previous knowledge.

Report

In various parts of the world, societies have developed different and interesting ways of looking at numbers and other mathematical ideas. Among several ethnic groups in Sierra Leone certain objects may be counted while others may not. In the past the counting was done using either a base twenty number system (Mendes and Tennes) which was associated with all the fingers and toes of a man or a base ten number system (Limbas). Whatever system was applied, it was used to count farm products, houses, some domestic animals and other objects which tradition allowed people to count.

There were, also, ways of measuring and estimating. The age of a child was estimated either in relation to the number of farm cycles that had transpired since he was born or in terms of his ability to walk from the home to the farm and back. Instead of the English or metric systems of measure, local cups and containers were used. Small quantities of rice and like farm products were measured in terms of the number of "cigarette cups". Larger amounts were

measured using kerosene tins, bushels or bags. Liquids were measured in bottles or tins. "Country cloth" was measured in arm-lengths where one arm-length was comparable to a yard. Smaller units of length were the hand-span and the pace.

All these things were happening in Mendeland, Temneland and Limbaland before the interaction with other cultures. When "Westerners" came to Sierra Leone they founded Western-type schools and soon Limbas, Mendes, Temnes, and other ethnic groups had to send their children to these schools. The schools were foreign in origin and ideas and in many instances became agents for condemning some of the cherished ideals of the society.

Among the subjects taught in school was one called arithmetic. It had no meaning to the children because it seemed unreal. They were used to sharing their "rice chop" and to grouping such objects as oranges and mangoes. But they had difficulty with the abstract numbers of school arithmetic. The difficulty was compounded by the fact that they received instructions from their teachers in a language, English, which was foreign.

It is this state of affairs which modern curriculum renewal in mathematics in Sierra Leone should try to rectify. If school mathematics can be established on a foundation which draws upon the type of mathematics to which the child's environment exposes him, then there is reason to believe that he will manifest some interest in the subject. This is the spirit behind this study. The aim is to investigate original concepts of geometry, estimation and measurement among the three major ethnic groups in Sierra Leone.

Method of Procedure

Together, the Mendes, Temnes and Limbas make up approximately 80 per cent of the population of Sierra Leone. Each of the first two ethnic groups contributes about one-third of the population, but the Mendes are slightly more numerous than the Temnes. Also, each is made up of two major subgroups. There are Kpaa Mendes and Eastern Mendes as well as Sande Temnes and Yoni Temnes. The investigation was carried out in five villages, each being a representative of one ethnic group or subset thereof. In each location five old men and five old women who have never attended any Western-type school were interviewed. They ranged in age from 56 to 68.

Each subject was interviewed singly and was requested to answer questions which dealt with geometrical concepts and words. Some areas of interest included the kinds of geometrical patterns noticeable in carvings and the houses constructed by the people. Other interests were terms used to describe plane or solid figures.

Then, there were questions on measurement and estimation. How was distance measured or estimated? How was area estimated? How was crop yield measured? How could people tell their ages or how could they tell time? And so on.

All questions were asked by final year undergraduate students of mathematics who were members of the respective ethnic subgroups and who had been specially trained for the project.

There was another aspect of the study which was limited to the largest ethnic group, the Mendes. Part of it involved the two Mende Locations referred

to earlier. In each of them a task on estimation of the quantity of rice in a bowl was set for the 10 adults used in the general investigation as well as for 10 school children and 10 non-school children. The age range of the children was 9 to 13 years. In addition, the Eastern Mende subjects had to estimate both the number of houses in their village and the number of people who lived in those houses.

Findings

The results of the study have been classified into three sections:

a) the uses of geometry
b) the uses of measurement and estimation
c) the results of estimation experiments

a) The Uses of Geometry

One approach to Euclidean geometry is to consider the point as a building block and define other terms in relation to it. For instance, the line segment is defined as a union of points. Among all the three ethnic groups studied there was adequate terminology for the point, the line segment and other related concepts. The word "Kaawoni" which the Mende used for line segment has always existed in their culture but the word "tolon" used by the Limbas has been borrowed from neighbouring Temneland.

It was in their description of plane and solid figures that the sub-cultures showed inadequacy of refinement of terms. All had terms describing the plane. The Mende said "tibi vamei va vevele" which meant that the surface of the table was flat or planar. However, beyond this general recognition, distinctions were blurred. The square, the rectangle, the rhombus and all four-sided plane figures were described in the same language as things having four corners.

Yet the circle was a familiar plane figure. The Limbas described it as "Kilkilli" while the Mendes said it was "Keke". It was clearly differentiated from the sphere which for the Mendes was "si" or dense in matter. The only other solid figures recognised by all the groups were the box or cuboid and the Temne "long-round" or cylinder.

Both the Mendes and the Temnes built two types of houses - the rectangular house and the more popular round house. The Temne round house has been described by Mr. Littlejohn (1960). The round construction was made in a manner similar to the construction of a circle in Euclidean geometry. The instruments used were a rope, a hoe and a peg. The peg was used as the centre and one end of the rope was tied on to it. The hoe at the other end of the rope acted as the pencil end of the compass.

Consistent with the philosophy of traditional African education, there was much observation and imitation. This was borne out by the fact that many geometrical patterns could be recognized in carvings. On the whole, most carvers copied what they had seen elsewhere and did not stop to think about the geometrical significance. The origins of the first patterns remain obscure.

b) The Uses of Measurement and Estimation

Among all the subgroups studied, there existed ways of measuring

length and weight but not of measuring time. Only rough estimates of time could be given. Length was measured in terms of man's hand-span, arm-length or pace depending on the object. Neither the British nor the Metric system of weight or volume measures was known. Instead the people used local cups and other containers. Small quantities of rice and comparable farm products were measured in cups; larger amounts were measured in bags. The arm-length was used to measure "country cloth".

It was tempting to conclude that these units were not standardized but this conclusion could be misleading. The units were understood and used not only in Mendeland, Limbaland and Temneland but also in many other societies in West Africa. Moreover, only minor variations were observable if one moved from one locality to another.

The ethnic groups recognized dawn, dusk, mid-day and evening. The cock crew at dawn. There were, and still are, both the wet and dry seasons around which revolved the farming activities of burning the bush, ploughing, sowing, weeding, scaring birds, harvesting, and storing the products of labour. Events such as births and deaths were recalled in terms of this cycle of farm activities.

In connection with the measurement of time, Gay and Cole (1967,p.71) have observed in a related situation:

"The measurement of time differs from the measurement of money, volume and length, in that certain terms which appear to measure time cannot be numbered. Such terms might be called intensive measures of time rather than extensive measures. They measure the quality of the moment, not the quantity. The same phenomenon appears in English."

Currency was in the form of "country cloth" or in the form of "iron money." "Country cloth" is a heavy handwoven piece of valuable cotton material made up of strips sewn together. The typical strip is rectangular and about six feet long and four inches wide. The normal size "cloth" measures approximately six feet by four feet. It was the currency for exchange of valuable property.

"Iron money" is a cylindrical piece of rod which is usually less than one foot in length and less than one-fifth of an inch in diametre. One end is pointed and the other has two fins. Between these ends there are about 15 to 20 turns obtained from twisting the rod. Its value was set from time to time by secret societies.

c) The Results of Estimation Experiments

In both the Kpaa Mende and Eastern Mende locations, 10 adults, 10 school children and 10 non-school children were requested to estimate the number of cups of rice in a bowl in which 20 cups of rice had been put. Table 1 shows the results obtained. One thing that the accuracy of the estimates (especially by adult subjects) indicates is familiarity with the measure for small quantities of the staple crop. This is consistent with the emphasis which traditional education put upon observation.

Table 1. Comparison Of Estimates Of 20 Cups Of Rice For Six Sub-groups

Statistic	Adults		School Children		Non-School Children	
	Kpaa	Eastern	Kpaa	Eastern	Kpaa	Eastern
Mean	18.0	17.0	19.9	16.1	18.8	14.9
Median	18.0	18.0	18.0	12.0	16.5	15.0
Standard Deviation	3.3	2.4	5.4	7.2	9.5	3.1

The Eastern Mende subjects were further asked to estimate the number of houses in their village and the number of people who lived in those houses. There were altogether 259 persons in 33 houses. The results obtained are displayed in Table 2. It is not surprising that the estimates of people are worse than those of cups of rice. Not only are the numbers involved in the former case larger but the idea of counting human beings is foreign to this land.

Table 2. Comparison Of Estimates Of Houses and Persons For Three Sub-groups

Statistic	Adults		School Children		Non-school Children	
	Houses	Persons	Houses	Persons	Houses	Persons
Mean	33.8	278	36.5	227	31.3	292
Median	33.0	265	39.0	225	28.5	153
Standard Deviation	5.6	85	13.4	124	13.6	285

Conclusion

In Sierra Leone, as in many other parts of Africa, some of the forces which should help shape the nature and content of school curricula have not received adequate attention. One of these forces is the background of the students in the sense of the role that the African environment should play in curriculum development and adaptation. Both the content and methods of mathematics education should arise from past and present experiences in the immediate enviroment and beyond. As some authours (Gay and Cole, 1967, p.1) have emphasized:

"We must know more about indigenous mathematics so that we can build effective bridges to the new mathematics we are trying to introduce."

An attempt has been made in this study to get an insight into certain aspects of the type of mathmetics practised by traditional Sierra Leone. Among other things, it has been discovered that:

1. The sub-cultures studied are familiar with certain geometrical concepts usually ascribed to Euclid.

2. Measurement is used in the daily lives of the subgroups studied.

3. The measures so used are neither English nor Metric.

4. Estimates of the number associated with certain objects are made, and accuracy depends, on the frequency of use of the particular object in the society.

In a related study on the real number system in these three sub-cultures, the author has found that the arithmetic operations of addition, subtraction, multiplication and division is used in the sharing of the products of farming. Thus, in general, it may be claimed that traditional Sierra Leone has practised a type of mathematics related to its needs.

Yet, the history of the developement of mathematics shows clearly that when man is faced with puzzling problems, he invents new numbers, new methods or new systems. There is reason to hope, then, that an approach to curriculum adaption in mathematics which builds on the society's previous knowledge is likely to succeed.

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INFANT CARE AND DEVELOPMENT IN URBAN ZAMBIA

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Summary

Reference: Vol.2 (1969) E22 (p.55-56)

Mother - Infant interaction was observed in the natural setting in order to assess cognitive and motor development in Zambian children and explore the relationship between early maternal handling and later development. The study revealed that the homes of these infants were characterised by high frequency and stability of contacts with adults, and great variety of experience, but little deliberate stimulation of development of motor, cognitive or linguistic abilities, eg. through toys, or opportunity for play other than incidental.

Zambian infants' motor development at 4 months was 3 weeks in advance of American infants. This was attributed to the constant physical stimulation in the early months through contact with the mothers while being carried on her back. Sensorimotor development, advanced at 6 months tended to decrease at 9 and 12 months; similarly, space exploration. This was attributed to lack of opportunity for exploration, and compliance with adult standards - removal of objects being tantamount to prohibition. The restriction of attention to the task, and lack of curiosity regarding objects in the periphery noted in Zambian infants was explained as possibly due to lack of experience in manipulating objects and lack of opportunity for self production of contingencies.

Report

The mother has always been considered an important influence upon the development of the growing infant, but until recently there were few efforts to study or observe mother-infant interaction in the natural setting. We have also become aware that in addition to providing necessary physical care and emotional stability for the infant, the mother and the experiences she provides lay the foundations for cognitive development. In this study we observed mothers and infants in their homes, assessed both cognitive and motor development,and explored the relationship between early maternal handling and later development.

Our subjects were 38 infants in an urban township of Lusaka who were visited in their homes at 4, 6, 9, and 12 months. A major difficulty in longitudinal projects is that of subject attrition and this was no exception. Four infants died during the course of the study and 6 others were seriously ill during various testing periods. Four families moved and we were unable

to regain contact with them. Of the 38 infants we initially visited, 25 were seen at the last visit. The families we visited represented 16 different tribes and ranged in size from 3-17 persons with a mean of 7. Occupation of the fathers ranged from labourers to small shop owners. Only 4 fathers had been to secondary school, but only one mother had secondary school training. Most mothers' education included several grades of primary school. One had completed primary school. When we first began visiting, none of the mothers were employed outside the home, but by the end of the study four mothers were working away from home all or part of the day.

At the four month visit, an observer coded mother-infant interactions in 10 second blocks of time for 10 minutes. We also administered the Bayley Motor Scale. At 6, 9, and 12 months we administered the Albert-Einstein Sensorimotor Scales which are based upon Piaget's theories of sensorimotor development. They include a Prehension Scale, which measures development of visually directed reaching; a Space Scale, which tests development of the ability to follow and predict trajectories of objects in space and spatial relations; and an Object Permanence Scale, which assesses the ability to conceive of an object's existence independently of the infant's perceptual contact with it. At the end of the study we completed the Home Stimulation Inventory (Caldwell, 1969). This is an inventory which describes the home environment with respect to the infant upon the basis of observations and an interview with the mother. All testing was carried out by two Zambian female assistants in the homes or in the gardens outside of the homes.

A brief summary of results based upon analysis completed to date follows. The reader is referred to the publications listed at the end of this report for more detailed discussion.

Mother-infant interaction

The most frequent behaviours were holding, looking at, and touching the infant. Talking to and playing with the infant occurred only rarely. In general, more time was spent in physical stimulation (holding, touching) than in non-physical stimulation (looking, and talking). There were no sex differences in infant behaviour or maternal handling. Maternal behaviour was related to family size and structure. Mothers in smaller families were more attentive to their infants. Mothers in extended as opposed to nuclear families were more likely to talk to and play with their infants, behaviours which were otherwise rare in our sample. It was suggested that the presence of other caretakers in the family probably enabled the mother to spend more time in non-essential interactions with her infant such as talking and play.

Home Environment

The Home Stimulation Inventory indicated that the homes of these infants could be characterized by high frequency and stability of contacts with adults, great variety of experience (probably greater than most Western infants), but little deliberate stimulation of development of motor, cognitive or linguistic abilities. None of the families bought toys or made toys for their infants. Mothers reported that their infants played with objects routinely found in the home and garden,such as,sticks and stones, water and sand, cooking utensils and bottletops. However, we rarely observed children engaged in manipulation of such objects and concluded that mothers did not provide such materials for infants' play but rather the opportunity for such play occurred incidentally.

Motor Development

We predicted that because Zambian infants received constant physical stimulation in the early months through contact with the mother while carried in the sling on her back, their motor development would be advanced in comparison with Bayley test norms. This prediction was confirmed. At four months the mean score we obtained was 1.5 standard deviations above the mean reported by Bayley (1969) and the behaviour observed was that characteristic of American infants 3 weeks older.

Sensorimotor Development

On the Prehension Scale, 23 of 33 subjects were performing at the most advanced level at six months when we first adminstered the scale. The remainder had achieved successful reaching by the 9 month visit. This is comparable to the data reported by Corman and Escalona (1969) for their validation sample.

On the Object Permanence Scale, Zambian infants were slightly advanced at the 6 month visit than the Corman and Escalona (1969) sample, but less advanced at 9 and 12 months. A similar pattern emerged for the Space Scale. However, Zambian infants were significantly more advanced on the Space Scale than the Object Scale at every age, whereas American infants had generally been more advanced on the Object Scale. One possible explanation is that we had great difficulty in getting infants to search hidden objects, a difficulty which did not seem to reflect lack of object permanence, but rather lack of exploratory activity in general and possibly compliance with adult standards. Possibly infants have already learned that adult removal of objects is usually tantamount to a prohibition. In comparison to the European pilot subjects we tested Zambian infants were remarkably "good". They never crawled away from the task, never tried to drag out the toys not in use and never were inattentive to the task at hand. Our European pilot subjects were difficult to test because of the frequency of these kinds of behaviours. Our Zambian infants were difficult to test on the object scale because they were "too good". Another possible explanation is lack of experience in manipulating objects. As noted earlier mothers did not regularly provide opportunities for such experiences.

Thus far, no measure of maternal behaviour in terms of frequency of occurrence has been predictive of later measures of cognitive development. Analysis currently in progress will consider patterns of interaction rather than simple frequencies. Similarly, none of the measures of home stimulation were related to performance on the sensorimotor scales. However, previous studies of infants from different backgrounds have typically failed to find developmental differences in the first two years of life. Those studies which report such differences (Wachs, Uzgiris and Hunt, 1971; Golden and Birns, 1968) have reported differences in difficulty of testing and number of administrations required to score behaviour rather than in level of performance obtained. Our difficulty in testing Zambian infants may reflect a similar phenomenon. We also found at 9 months that many infants showed intense stranger anxiety which made testing difficult. For these two reasons the 9 and 12 month data on the sensorimotor scales is suspect as an adequate estimate of these infants' abilities.

The finding of early acceleration on both sensorimotor and motor scales may reflect a particularly appropriate "match" between child care practices and the needs of very young infants. Lewis and Goldberg (1969)

have argued that the extent to which maternal behaviour is contingent upon infant behaviour is an important factor in cognitive development. It is this contingency which enables the infant to learn that his behaviour has consequences. Later the infant produces his own reinforcements through opportunities provided by the mother for manipulation within the environment. In the early months, when the Zambian infant is on his mother's back, she is able to respond immediately to his signals and needs, acting as a highly successful contingency producer. Later on, when the infant spends much of his time seated on a mat in the yard, Zambian infants seem to lack opportunities for manipulating objects, and for self-production of contingencies.

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SOCIAL CLASS, LANGUAGE AND COMMUNICATION IN JAMAICAN CHILDREN

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Summary

Reference: Vol.2 (1969) E29 (p59)
Vol.3 (1970-71) E20 (p58)

Standard Jamaican English used by the educated native Jamaican of the upper class though internationally understood and acceptable is different from standard British, American or Australian. However, there is a wide range of variation between it and the "dialect" or Jamaican Creole spoken by the majority of Jamaican in the lower socio-economic sectors. Hence, children from the lower social class use a language system, and socio-cultural norms significantly different from that used by their upper class counterparts.

The study traces and compares for the lower and middle class groups and the upper class group the point of lexification in language development, the use of basic formats, internal processing, verbal vocabulary, the use of adjectives, the use of sentences in relation to quantity of words, and the use of words per unit of time, for the expression of a common set of basic meanings.

The conclusion drawn is that socio-cultural conditioning influences the purpose and content of a child's language, and that the implication for education is that school language programmes can be structured to focus on one or more of the aspects - purpose, content, format - depending on the needs of differently conditioned children.

Report

The majority of the Jamaican population, especially in the lower socio-economic sectors of the society speaks what is commonly referred to as 'the dialect' and what linguists refer to, in its most extreme form,as Jamaican Creole (JC). There is a wide range of variation existing between JC and the varieties of English that are spoken predominantly in upper social-class situations. Among these varieties is what may be referred to as Standard Jamaican English (SJE) which is the language of educated native Jamaicans and which, though differing from Standard British, or American, or Australian or any other standard is, like these, a part of internationally acceptable English.

This means that children from lower social-class backgrounds in Jamaica differ from their upper social-class counterparts firstly, by the use of a significantly different language system, JC, and secondly, by having a different set of socio-cultural norms.

The research whose results will be outlined here aimed to study the habitual purposes, content and form of communication that are evidenced in the language of young Jamaican children living in contrasting socio-cultural environments. It was felt that the study of such habituations in children would have important implications for education in a society where social integration is a top educational priority.

It was further felt that most current researches on social-class influences in children's language tend to confuse aspects of purpose, content and the format of communication. Each of the latter aspects is in the present study considered as having its own distinct implications; it is felt that socio-cultural groups may conceivably differ in one or more of these aspects without necessarily differing in all; in any case, the inferences to be drawn from such differences would be capable of focusing on language behaviour in a way not possible in current researches where social-class language differences are treated as being either mainly linguistic on the one hand or mainly cognitive on the other. A description of the research follows.

On the criteria of parental occupation and school of the child, samples of Jamaican children at age $6\frac{1}{2}$ to $7\frac{1}{2}$ years were selected in three social-class categories: urban low-social-class (L); deep rural, which in this context also means low-social class (RL); and urban upper-social-class (U). Groups of 5 children each, in the same social-class category, were taken out of their class-rooms and left to converse together in the absence of an interviewer or other outsider on several occasions; on one of these occasions for each group, without the knowledge of the children, the group-conversation was tape-recorded for approximately 11 minutes. The conversations were transcribed without any attempt to identify individuals, so that only a single continuous stream of speech that was mostly audibly dominant might be studied for each group. 63 groups of children, 21 in each social-class category, were studied in this way and their relevant language characteristics were quantified and compared.

As far as morpho-syntactic characteristics of speech were concerned, the research showed as would be expected that the L and LR groups were using a JC system with its peculiarities of sentence-structure, different conventions relating to tense-marking, inflections, pronominal systems, and so on as compared with English. It showed also, however, that some JC morpho-syntactic characteristics such as the zero-copula sentence (e.g. 'John running', 'The book red') and absence of the English 3rd person, singular, present-tense s/z inflection on verbs were significantly present in some of the U groups. This meant that social classes were differentiated by JC more in terms of the frequency with which some JC characteristics occurred, than in terms of the absolute presence or absence of such characteristics. The complexity of intra-lingual variation that is evident proves that the JC situation is not a static one with clearly polarised language varieties.

On the assumption that the purpose for which language is used are identifiable as specific 'performative' functions in language, the research showed that socio-cultural groups differed as follows in the purposes of language use.

The L and LR groups were more disposed than the U groups to find pragmatic purposes: callings, greetings, context-based replies, questions, commands, and so on for using language; this was shown empirically by the relative occurrences of non-predication sentences ('Hi', 'Not now', 'Yes', 'No', and so on) that express the latter purposes.

Other differences in the preferred purposes of language use were evidenced between urban (L and U) and rural (LR) groups. The LR groups seemed more disposed than both the L and U groups towards indulging in conversational exchanges; the latter disposition was evidenced empirically by a wider variety of question types and a greater use of some types of negation among LR than among other groups, although the total occurrence of negation was just as great in U girls as in LR children. The latter finding relative to LR children was also supported by the fact that these children tended to interrupt each other less frequently in speech than other children did and therefore produced smaller quantities of fragment or interrupted sentences on the whole. Urban/rural differences were also found in respect of a special type of performative behaviour: the vocal imitation of sounds which was most present in urban children.

Sociocentric sentences (Interposed instances of 'You know', 'You see', etc.), sometimes felt to be another reflection of specific purposes of language use, occurred most frequently in L and LR groups; however, it is felt in the present study that this characteristic was not due so much to the purposes of speakers as to the type of communication strategy that was being employed.

As a general rule, the purposes for which language was used by the subjects of this study were closely related to what might be regarded as the dominant everyday requirements of the respective socio-cultural environments; however, after the expression of these purposes in language was accounted for, there still remained a significant set of language differences that could not be attributed either to morphosyntax in its strict sense or to purposive behaviour.

The influence of socio-cultural environment was strongly evident in the content of language as well; thus the L and LR groups had the most frequent references to adults and adult behaviour, urban groups (i.e. L and U) the most frequent references to mass-media, fictional topics and characters; girls were dominant, for example, in references to colour, boys in the use of certain types of delimiters and intensifiers that give a certain vigour to language, and so on. The differences in content were shown empirically by means of a detailed subcategorisation of lexical items according to syntactic and 'selectional' criteria so that adequately narrow, lexical subcategories could be described in terms of the type of reference they permitted.

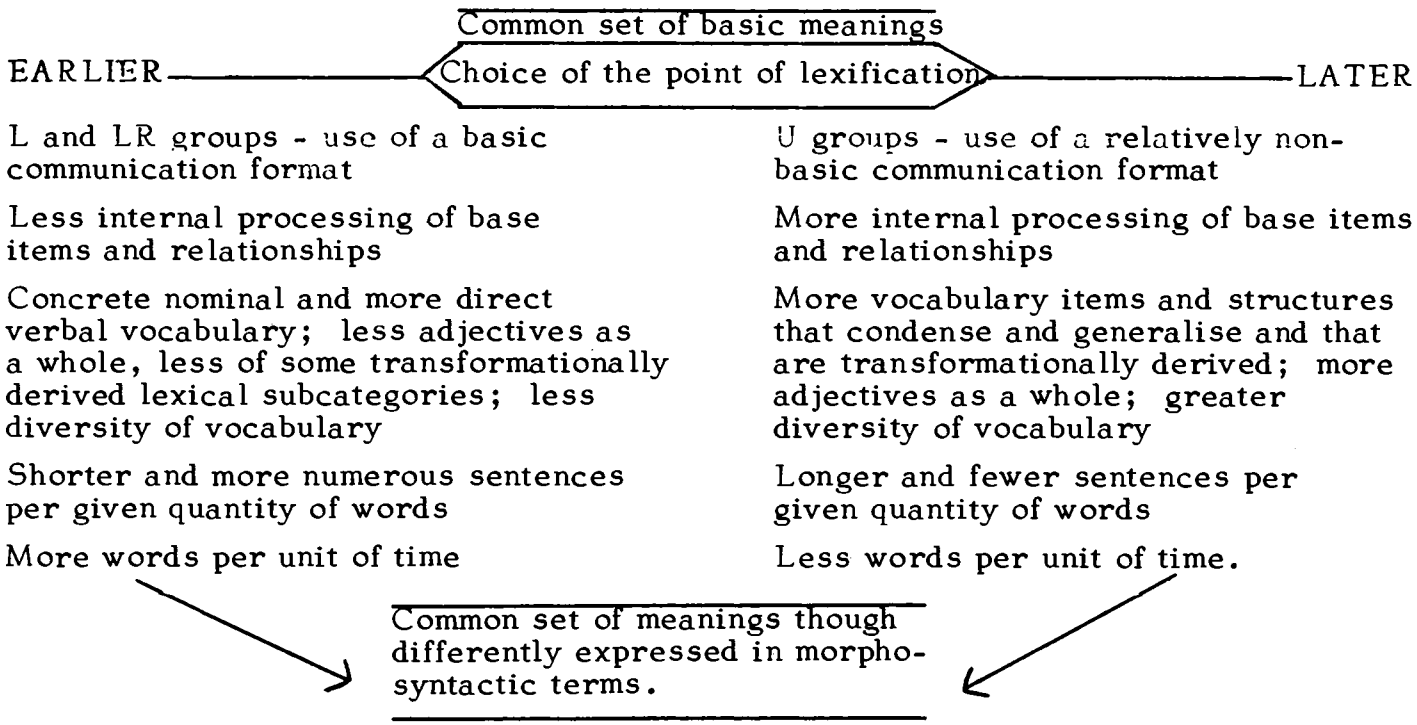
Certain categories of language content, such as references to place, time, number and quantity, modalities and logical relationships, that seem relevant to cognitive abilities of a general sort did not differentiate absolutely between socio-cultural groups, but differentiated rather in terms of the detailed alternatives that groups seemed disposed to select within specific content categories. Thus, for example, the total references to place and time were about equal for all children, but the L and LR references conformed with previous indications by being more immediate and face-to-face than U references in the same broad categories; the total references to modalities and logical relationships were about the same for all children (except for U boys who produced less because they indulged in more playful behaviour than other children did in the speech situation), but L and LR children tended more than others to reference concepts of obligation, necessity and numerical order, while U girls tended more than other children did to reference concepts of probability, possibility and potentiality.

Differences in the content of language accounted for only a small part of the differences left unexplained after the study of language purposes. These so far unexplained differences seem relevant to what has already been referred to as the 'format' of communication, and the possibilities of speakers possessing different communication formats can be described as follows within a generative theory of language:

a. The speaker's linguistic knowledge can be described as a sequence of operations, some of which must of necessity occur before others do. Some linguistic operations may therefore be considered as occurring 'earlier' or 'later' than others.

b. The speaker's vocal output of language can occur at any point in the earlier/later sequence or range of operations. When he makes this output, he can be said to 'lexify' or give a morpho-phonological form to such language elements as exist at that point in the sequence of processing.

Within this theoretical conception, the remaining language differences observed in the present study indicate that the L and LR groups tended to lexify their language earlier than the U groups tended to do. The result was as shown in the illustration below which indicates two possible extremes of communication formats, although it is possible for many speakers to fall somewhere between the two.



The general conclusions to be drawn from this study are that socio-cultural conditioning has an influence on the habitual purposes for which children use language and the kind of content that comes up for treatment in language; at the same time, however, many language characteristics considered in previous researches as indicators of maturity, cognitive abilities, and so on, and as differentiating in these terms between socio-cultural groups of children are here considered as indicating nothing more than the preferred lexification points in communication, and as having nothing to do with whether the children are expressing or are in the habit of expressing the same repertoire of basic meanings.

The implications for education are that school language programmes can be structured to focus precisely on one or more of the aspects: purposes, content or communication format depending on the goals of education and the specific needs of differently conditioned children.

For a fuller description of this research see "The use of Language by 7 year old Jamaican Children living in Contrasting Socio-economic Environments" - D. R. Craig. Unpublished Ph.D. Thesis, London University Institute of Education.

VOCABULARY DIFFICULTIES OF PAPUA - NEW GUINEAN HIGH SCHOOL SCIENCE STUDENTS

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Summary

Reference: Vol.2 (1969) F2 (p.64)
Vol.3 (1970-71) F1 (p.60)

English which is a second language for most Papua - New Guinea students is the medium of instruction in all secondary schools and may be a barrier to educational purpose. A list of words, non-technical but regarded as essential in the teaching of science, was drawn up by Victoria and Papuan - New Guinea teachers, tested, refined and reduced to 650 which met the criteria. Other tests of picture recognition, synonym recognition, sentence completion and correct sentence usage were tried, and an acceptable test list constructed.

A list of the words included for testing, the contexts in which these words were tested and the difficulties of the items, is attached to the full report (see references).

Report

English is the medium of instruction in all high schools in the Territory of Papua and New Guinea. For most students it is a second language. Difficulties with language therefore represent a major barrier to educational progress for many students. Vocabulary difficulties - unfamiliarity with words frequently encountered in the course of oral or printed communication - represent one, (but certainly not the only) kind of language difficulty.

Project SWNG (Scientific Words - New Guinea), which began in 1968, set out to identify specific vocabulary difficulties of T.P.N.G. high school students in the field of science. In the first phase of the project, a comprehensive, relevant, non-trivial, and non-technical word list was produced. Comprehensiveness was desirable so that all words likely to prove difficult would appear on the list, and was achieved by starting with the Thorndike-Lorge word list of the 20,000 most frequently used English words. Relevance was determined by having a panel of Victorian teachers and educational researchers, followed by a similar panel in New Guinea, systematically select and rate words on the Thorndike-Lorge list for their importance in science; only words regarded as essential or valuable were included for testing. Non-triviality was attained by deleting nearly all words rated as AA or A in the Thorndike-Lorge list; these words (e.g. 'blood', 'circle', 'up') occur with high frequency in English, denote simple concepts, are usually learned early in the pre-school or primary

school years in English-speaking countries, and would probably not present any difficulties to a T.P.N.G. secondary school pupil. Non-technical words were included, and technical terms excluded, on the grounds that the latter would be specifically taught by the science teacher if they were part of the curriculum; it was felt that a list of words of 'ordinary English' frequently used in science teaching but seldom explicitly taught by the science teacher, would be more useful. A list of 600 words meeting these criteria was produced.

In the second phase of the project, multiple-choice test items of various kinds (picture recognition, synonym recognition, sentence completion, correct sentence usage) were written, tried out, and revised. Fifteen final tests of 40 items each were then administered to all Grades 9 and 10 pupils in a random sample of 22 T.P.N.G. high schools, each pupil taking only two tests selected at random from the battery.

Findings

A full report of the project (Gardner, 1971) describes in detail the procedures outlined above, lists the test items used, and presents the findings of the project. Data available are the percentage correct on each item, distractor popularities, and a word list organised on the basis of difficulty level. Space does not permit reproduction of all these data here; however, an alphabetical list of the words included for testing, the contexts in which these words were tested, and the difficulties of the items, may be obtained from the author (see references)

Further Research

A replication of this project was carried out, using samples of Australian secondary school children at Grade 7, 8, 9 and 10 level, late in 1971. A report of this project, (Gardner, 1972) should be available late 1972.

References

Gardner, P.L. Project SWNG : Scientific Words - New Guinea. Report to the Department of Education, Territory of Papua and New Guinea, 1971.

Gardner, P.L. Words in Science. Australian Science Education Project, 1972 (in press)

A FIRST STUDY OF MENTALLY HANDICAPPED CHILDREN IN HONG KONG WITH SPECIAL REFERENCE TO THEIR EDUCATIONAL NEEDS AND RECENT DEVELOPMENT IN THIS WORK OVERSEAS

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Summary

Reference: *

The study describes the treatment of the mentally handicapped throughout history and gives an account of the work of pioneers in this field and the theories that determined the treatment they meted out.

In particular, it investigates Hong Kong's educational services to the handicapped. It identifies the needs of the mentally handicapped and suggests ways of meeting them, highlighting the key problems of training personnel for work in the area of education, vocational training and welfare services in respect to the mentally handicapped.

*The report included here is a summary of the contents of the full report not yet listed in the Commonwealth Secretariat Register.

Report

Even though efforts to educate the mentally handicapped began in the last century, the problems in mental deficiency were of concern and interest to relatively few people until the last decade or so. Before World War II many people, including the professionals, still held that very little could be done to integrate the mentally handicapped individual into community settings and so it was in society's best interest to remove them from family and community.

The situation reflected the absence of major government or national policy on mental retardation and feeling of public responsibility probably because of inadequate understanding and knowledge of the problem of mental deficiency. During this period very little research was done in this area and it was not an attractive subject of study at university level.

The post World War II was a time of acceleration in the field of mental retardation in legislation, facilities and research activity throughout the world. Among these were the growth of provisions for all grades of mentally handicapped children and adults, employment opportunities, programs in public education, assessment services, and research in teaching, biological, sociological and psychological aspects of the mentally handicapped. Major national organizations also saw considerable and outstanding growth during the last twenty or thirty years.

The post World War II period in Hong Kong has seen great increase in population from half a million to four million in 17 years. The rapid increase in population has created many major social problems such as housing, medical and health, and education to such an extent that the needs of the minority groups, such as the mentally handicapped, have been given very little priority. The Government's policy to meet all major social challenges is to subsidise legally incorporated voluntary agencies.

The last decade has been a decade of rapid economic growth coupled with major natural disasters and political crises. During this past ten years or so, the needs of the mentally handicapped and, similarly, needs of other minority groups have been met only in crisis situation or embarrassment.

The project investigates the nature and extent of the Hong Kong community's educational services for the mentally handicapped with the hope that the results may lead to an intelligent understanding of the present situation and a more adequate attack on the local difficulties which at present hinder the rapid promotion of this work along modern lines. It is the first study of its kind in this field of work for the Colony.

Chapter I presents a general picture of how the mentally handicapped have been treated throughout history.

Chapter II gives an account of the development of special education including the work of some pioneers in this field, and reviews certain theories relating to the treatment of the mentally handicapped. A description of similar developments in Hong Kong up to the present day follows.

Chapter III describes the needs of the mentally handicapped and suggests ways of meeting them adequately.

Chapter IV highlights the key problem of training personnel for work with the mentally handicapped in the areas of education, vocational training and welfare services. It then analyses the Hong Kong situation in particular and points out urgent problems associated with the acute shortage of trained staff to serve the mentally handicapped here.

Chapter V discusses matters of suitable curriculum, timetable and teaching methods in terms of the different categories of the mentally handicapped. Examples are given, and Hong Kong's special requirements are stressed.

Chapter VI sums up the findings of the research, and concludes by relating modern trends in providing for the mentally handicapped in Hong Kong. Certain implications are set down, and recommendations are made for future research in the local setting.

EDUCATIONAL ACHIEVEMENT AND THE SOCIAL FACTOR IN FREETOWN, SIERRA LEONE

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Summary

Reference: Vol.2(1969) E31 (p60)

In order to examine the influence of socio-economic factors on educational achievement the investigation was made at 3 levels: Fifth Year Elementary, Second Year Secondary, and Fifth Year Secondary pupils. The survey revealed a complex situation enjoining caution in associating school achievement with social class. Many lower class children (especially Moslems) were performing creditably at elementary level, and many upper class pupils in the senior secondary schools were achieving disappointing results.

Polygamy was a slightly adverse factor at secondary level. Family size was significant at elementary and junior secondary levels; and late entrance was significant at secondary school. School boarders seemed to be at an advantage. Irregular attendance among the poor affecting performance reflected a high incidence of sickness; irregular attendance among the advantaged pupils showed lack of commitment.

Report

In western society we are accustomed to relate school performance to social class and to assume that the difficulties of the lower class child increase as the educational ladder is climbed. Our assumptions concerning the influence of the socio-economic factors on educational achievement may or may not be valid in other societies than our own. To examine this question a modest investigation was made at three levels of the educational system in the city of Freetown, Sierra Leone. The survey population comprised 1,075 fifth year elementary, 682 second year secondary and 407 fifth year secondary pupils, just under half the number of children in the schools at each level.[1] The teachers were asked to place the pupils in five grades of

[1] The elementary sample comprised all the pupils attending Class Five in the municipal schools (as distinct from the denominational schools) of the city. At secondary level half of the schools were selected at random and their second year and fifth year pupils were investigated.

academic achievement, A to E, and information supplied by the pupils enabled them to be classified into five parental status groups.[1] Information was collected concerning language, birthplace, religion, family size, housing conditions, the incidence of polygamy, the age at which the pupil started school, and regularity of attendance. In a few cases a younger child was unable, and an older pupil unwilling, to give a particular item of information, and the possibility of some deliberately false answers - whether intended to please the questioner or to conceal the truth - must also be accepted. Nevertheless it was hoped that the study would be of some interest and value.

General Information

Of the 1,075 elementary school children, of whom 449 (41.77%) were girls, no less than 69.5% came barefoot to school. About one fifth of them had immigrated to Freetown from birthplaces in the interior, and most of these immigrants had come from the northern province, which is the most backward part of the country economically.

Krio, a pidgin which constitutes the lingua franca of Sierra Leone, was cited by 57.8% of the children as their vernacular, but altogether some 20 languages were represented in the survey population. The most popular tribal languages were the northern languages Temne and Limba spoken by 15% and 8% respectively. The principal southern language, Mende, was in third place alongside Kroo which is spoken by fishermen of Liberian origin in the western part of the city.

In the two secondary groups surveyed, the percentage of girls was 45.5% at second year level, and 47.9% of the senior secondary sample.[2] The great majority wore sandals which seem to be regarded as a necessary part of school equipment. A much greater proportion, almost half the total in each case, were immigrants into Freetown, many of them having come up specially to enjoy the educational amenities of the capital. The majority of these latter had come from the Mende speaking areas of the South where literacy is more widespread and the demand for secondary education greater. 28.8% of the second year sample and 29.1% of the senior secondary pupils were living in lodgings and just over 11% of each group were accommodated in school boarding houses.

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1 Group One comprised the offspring of managerial and professional men with some form of higher education. Mothers within this group had usually completed secondary school and a few had higher education also. In Group Two, fathers had completed the five-year secondary school course and many mothers had also received some secondary education. The third group comprised those whose parents had both received some education and one of them, usually the father, had been to secondary school even if he had not completed the course. Parental employment, though modest, was usually secure. For Group Four the only qualification was that one parent had received at least some primary education, whereas children consigned to Group Five were those whose parents were both illiterate.

2 Single sex schools are the order of the day in Freetown, and of the schools in the survey, only the Secondary Technical School is co-educational.

Parental Status Groups

The division of the elementary school sample into parental status groups underlined the poverty and social disadvantage which is the lots of so many African children. Of the 1,075 children, only 5.2% could be placed in the top group whereas over 40% were in the lowest one. The junior secondary sample revealed a social stratification not vastly different but somewhat less acute. In 1969 fees, textbooks, and school uniform cost about £25 per annum - a considerable sum - but secondary education could scarcely be described as a middle class monopoly. Indeed nearly 54% of the junior secondary pupils were in the two bottom parental status groups (four and five) and only 6.3% were in Group One. Only at the senior secondary level was there a clear preponderance of higher status parents and a near elimination of pupils from illiterate homes.

Table 1 Parental Status Groups

	Group 1 (Highest) %	Group 2 %	Group 3 %	Group 4 %	Group 5 (Lowest) %	Total
Elementary School Sample (1075)	5.21	13.21	16.84	24.37	40.37	100
Second Year Secondary Sample (682)	6.33	18.33	21.55	21.11	32.68	100
Fifth Year Secondary Sample (407)	29.48	17.69	22.85	24.57	5.41	100

However, when this distribution was related to academic performance, the situation proved more complex than expected. At all three levels the teachers achieved a good distribution of grades though there was a slight tendency for the junior secondary teachers to be more generous or more optimistic than their colleagues. In the elementary school sample, evidence of association was readily forthcoming.

Table 2A Parental Status Groups and Academic Performance - Elementary School Level

Academic Grades	Group 1 n=56 %	Group 2 n=142 %	Group 3 n=181 %	Group 4 n=262 %	Group 5 n=484 %
Grades A + B	64.29	42.95	30.39	28.30	21.20
Grade C	28.57	34.51	37.01	36.94	34.33
Grades D + E	7.14	22.54	32.60	36.26	44.47
Total	100	100	100	100	100

However, it will be seen that 55.53% of Group Five and 63.74% of Group 4, which together formed two-thirds of the sample, were in the top three academic grades, and this gives some basis for hope. Among the junior secondary pupils the small Group One was again doing well with over 60% of its members in Grades A and B. But in the other four groups, though none of them could match this performance, there was no noticeable tendency for academic grades to decline in step with parental status, and indeed Group Five, the lowest group of all, had more people in Grades A and B than in the two lowest grades. At senior secondary level the expected correlation was simply not present at all and indeed it was the small group of lower class children who seemed to be doing the best.

Table 2B Parental Status Groups and Academic Performance - Senior Secondary Level

Academic Grades	Group 1 n=120 %	Group 2 n=72 %	Group 3 n=93 %	Group 4 n=100 %	Group 5 n=22 %
Grades A + B	30.84	25.0	25.81	27.0	54.54
Grade C	30.36	41.67	39.78	46.0	31.82
Grades D + E	38.90	33.33	34.41	17.0	13.64

It may be that many pupils survive at secondary schools because of their parent's ability and willingness to pay fees rather than because of any motivation they have themselves. On the other hand the small group of lower class children would not be kept in school at this level at great sacrifice to their families unless they were academically successful.

Religion

Just under half of the elementary school sample were Moslems, and over 80% of them belonged to status groups 4 and 5. Moslems tend to constitute the lowest social stratum in Freetown, many being illiterate migrants from the northern province. However, the school performance of these Moslem children was not conspicuously worse than that of the elementary school sample as a whole, and a highly creditable number of B and C grades was achieved.

Table 3 Academic Grades of Moslem Children - Elementary School Sample

	A	B	C	D	E	Total
% of Moslems in each grade n=528	5.87	20.08	38.26	24.24	11.55	100
% of total survey population in each grade n=1075	8.56	20.65	35.16	22.33	13.30	100

In recent years Moslems have been sending their children to school in increasing numbers and they have begun to found schools of their own. No one can fail to be aware that religion is a great source of assurance to disadvantaged Moslems and they do not feel inferior because they are poor. It may be that their children move more easily in the school situation than do the alienated youth of our western slums.

At junior secondary level Moslems formed a smaller segment of the survey population, only 24.67%. The great majority of these (87%) belonged to parental status groups 4 and 5, but again their academic performance conformed quite closely to that of the sample as a whole. At senior secondary level the percentage of Moslems was down to 18%, but nearly two thirds of them (62.9%) came from the highest parental status group and none at all from the lowest. Their academic performance was not distinguished, and indeed they helped to swell the number of high status pupils with low academic grades.[1] Apparently wealthy Moslems parents, like others of their class, were maintaining children at school without much concern for their academic progress. Of the Group One Moslems in this sample, only 42% were reported by their teachers as regular in attendance.

Polygamy[2]

In the elementary sample 326 children (30.37%) came from polygamous homes[3] and not a single one of these could be placed in parental status group one. However, since 71% of them were Moslems[4] their academic achievement was well up to the norm for the survey population as a whole. At junior secondary level the percentage of children from polygamous homes was down slightly to 26.5% and again there was a clear correlation with social class. In Group Five, the lowest parental status group, 57% of the fathers were polygamous; in Group Four, 30%; in Group three, 19.7%; in Group Two, 14.4% and in Group One, only 4.65%. Children

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[1] Out of 10 Moslems in the lowest academic grade, 8 came from the highest parental status group.

[2] In this section, it would be reasonable to expect a few false answers from older pupils. Moreover some children were unable to answer because they had quite lost touch with their fathers.

[3] 225 fathers had 2 wives, 58 had 3, and 43 had more than 3.

[4] In spite of this the majority of Moslem fathers in the sample were still monogamous (56.5%).

from monogamous homes proved to have a slight superiority in that they had fewer pupils in grades D and E, but otherwise there was little to choose between the two groups. Moslems comprised 51.5% of the polygamous total.

At the senior secondary level, in spite of the higher parental status of the sample, children from polygamous homes still numbered 29.5% of the total, and 67% of them were from the highest parental status group and none at all from the lowest. The percentage of Moslems in the polygamous total was down to 43.5%.

Table 4 Polygamous Homes and Academic Performance - Senior Secondary Level

	E	B	C	D	E	Total
	%	%	%	%	%	N=389
Children from Polygamous homes 29.5%	6.07	26.96	26.96	30.45	9.56	100
Children from Monogamous homes 70.5%	11.36	19.05	43.59	19.78	6.22	100

These figures indicate an increased superiority of the monogamous group but again this was reflected in a larger percentage in Grade C and a smaller percentage in Grades D and E. In the top two grades the children from polygamous homes were holding their own.

Family Size

The average family size was 6.97 in the elementary school sample which included 134 children from families of eleven children and above, and 135 from families of 3 and under. There was a high proportion of lower class and Moslem children in the large-family group and a clear association existed between academic achievement and family size. Investigation of a further group of 124 pupils from families of 7 children revealed them much closer to the large-family group than to the small-family one. The adverse effects of size were clearly being felt.

At secondary level it was necessary to change the categories somewhat because of the smaller survey population. 151 junior secondary children from families of 4 children and under were compared with 163 children from families of 9 children and above. Again the small-family group was doing somewhat better at school though the large-family group was by no means disgraced. It had more pupils in the top two grades than in the bottom ones. In the senior secondary sample there were 96 pupils from families of 4 children and below and 91 from families of 9 children or more. It is noteworthy that in spite of the higher parental status of pupils at this level, there was no decline in the proportion of large families, though families of 11 children and over were much fewer. Small families tended now to belong to the lower social class and large families to the upper status levels. [1] A comparison between the small-family and large-family groups in respect of academic performance revealed a complex and interesting situation.

[1] 43.5% of the small-family group at this level came from status groups 4 and 5 whereas only 11% of the large-family group did so.

The large-family group had more of its members in the top two grades but the small-family group had fewer in Grades D and E. Perhaps the disadvantage of large family size was offset by higher parental status and the advantage of the smaller family unit was cancelled by lower social class.

Table 5 Family Size and Academic Performance

	Elementary School Sample		Senior Secondary School Sample	
	Large-Family n=135 %	Small-Family n=134 %	Large-Family n=96 %	Small-Family n=91 %
Grades A + B	24.62	35.56	41.76	30.21
Grade C	34.34	34.07	20.88	42.71
Grades	41.04	30.37	37.36	27.08
	100	100	100	100

Overcrowding

Family size alone does not necessarily give a clear indication of housing congestion and this problem was investigated separately. In the elementary sample 183 fortunate children (17.02%) were living in households of six persons or less, whereas at the other end of the scale there were 195 pupils (18.14%) living in households of twenty persons or more.[1] Some could scarcely be said to have a home but only a sleeping place, and the situation was particularly acute in the crowded east end of the city. Overcrowding on this scale was inevitably associated with low parental status but the expected correlation with academic performance could not be substantial. This was partly because the achievement of the advantaged group was frankly disappointing - 39% of them in Grades D and E and only 34% in Grades A and B - and partly because three-quarters of the disadvantaged group were Moslems, whose sound performance at elementary level we have noted before. It may be, of course, that elementary school pupils do not need facilities for private study to the same extent as older pupils with more homework to do. At both secondary levels overcrowding was mercifully less acute. 31% of the junior sample and 29.4% of their seniors were living in households of six persons or less,whereas households of twenty persons and over were the lot of only 8.75% and 5.6% respectively. However, considerable numbers lived in households of between 12 and 20 persons - 19.2% at the junior secondary level, 14.2% of the senior sample - but there was little evidence that this affected their academic performance. This may be connected with the enlightened policy of some schools in allowing private study on school premises after lessons have ended. There was, however, some evidence that at both secondary levels the small group of boarders, assured of regular meals and study facilities, were doing rather better than their fellows.

[1] There were 21 households with over 50 persons, and a further 28 with between 40 and 50 persons.

Table 6 Academic Performance of School Boarders

	Grades A + B %	Grade C %	Grades D + E %	Total
Boarders, junior secondary level	44.44	27.78	27.78	100
Junior Secondary Sample as whole	39.88	25.96	34.16	100
Boarders, senior secondary level n=47	48.55	22.88	28.57	100
Senior Secondary Sample as whole	31.21	38.82	29.97	100

Age to School

In Freetown, as elsewhere in the underdeveloped countries, there is usually a considerable age range within each class. The recognised age for starting school in Sierra Leone is five years, as in England, and it was found that 157 children (14.6%) out of the elementary school sample had started school three years late. Predictably only 4% of these late entrants came from the two highest parental status groups, and only 9% from families of under three children. But the late entrants were not academically backward in comparison with their classmates. Contrary to expectations, the drop out of over-age pupils did not materialise, for late entrants (3 years late) numbered 16.4% of the junior secondary sample and 14.4% of the senior sample. However, though these pupils conformed to the norm of their samples in most respects, their academic performance was below that of their fellows.

Table 7 Academic Performance of Late Entrants - Junior Secondary Sample

	Grades A + B %	Grade C %	Grades D + E %	Total
Children who started school at age 5 and below. n=293 (42.96%)	39.93	30.72	29.35	100
Children who started school at age 6 or 7 n=277 (40.62%)	41.52	22.74	35.74	100
Children who started school at age 8 or over. n=122 (16.42%)	35.71	21.43	42.86	100

Attendance

The survey revealed a distrubing irregularity of attendance at all three levels. The percentage of pupils reported by the teachers as 'poor' or only 'moderate' in attendance was 37.2 in the elementary schools, 42.8 at junior secondary level and 37.75 of the senior secondary population. It was noticeable that some schools reported almost no attendance problem whereas others were clearly faced with a serious situation. Variation from one school to another was particularly noticeable at elementary level. But wherever it occurred, irregular attendance inevitably had a disastrous effect on academic performance.

Table 8 Regularity of Attendance and Academic Performance - Junior Secondary Level

	Grades A + B %	Grade C %	Grades D + E %	Total N=682
Satisfactory Attendance (57.2%)	59.02	21.48	19.40	100
Unsatisfactory Attendance (42.8%)	19.67	28.12	52.21	100

In Freetown, as everywhere else in the world, absent pupils cannot learn.

Conclusion

The survey revealed a complex situation and enjoined some caution in associating school achievement with social class. Lower class children, especially Moslems, were performing creditably at elementary level and many upper class pupils in the senior secondary sample were achieving disappointing results. Polygamy was slightly an adverse factor at secondary level as it moved out of the shadow of Islam; school boarders appeared to be in an advantageous position; family size was significant at elementary and junior secondary level and late entrance began to be a factor in the secondary school. The high incidence of irregular attendance among the poor might perhaps merely reflect the high rate of sickness, but among advantaged pupils with adequate medical facilities and regular meals, it must surely indicate a lack of commitment. Whether a change in traditional school curricula would improve attitudes, and therefore performance, must be a matter for serious reflection.

IMPROVING PUPIL RESPONSE TO CLASSROOM INSTRUCTION

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Summary

Reference: Vol.3 (1970-71) G6 (p.90-91)

Three main problems in Secondary Schools were studied -

a) Organisational and environmental factors affecting learning and instruction

b) Students' attitudes to schooling

c) Instructional patterns and students' response in two specific areas - language and mathematics

In respect of (a) the study confirmed an earlier finding of 1963 that heterogeneous grouping of students, lack of teaching aids, "hall type" class arrangement in the all age (6-16 years) schools, academic curriculum with no provision for technical and agricultural studies, too few trained teachers or experienced graduates on the staff affected pupils' attitudes.

(b) Students' attitude was limited to acquiring a job certificate.

(c) Projects aimed at improving pupil performance by modifying instructional variables hypothesised as crucial were launched in language and mathematics. The language project is still in progress. The mathematics project using concrete and ikonic references in the teaching - learning situation found statistically significant differences between the experimental and controlled groups. This finding pointed to the need for appropriate aids in the teaching of mathematics with the opportunity for the teacher to make them, and suggested that much benefit could be gained from initial and refresher teacher education courses centred around experimental curriculum projects.

Report

In 1968 the Faculty of Education of the University of Guyana with the assistance of a grant from the Carnegie Foundation initiated a project to improve pupil performance in local primary and secondary schools by modifying curriculum and instructional practices. Local educators had constantly expressed concern over the low level of student response in the normal classroom situation and the results achieved at terminal examinations. The research programme undertaken by the Faculty sought to investigate

factors in the school setting which affected student response and achievement and to discover how experimental variations in these factors could influence educational attainment.

Three main problems were selected for study:

(a) organisational and environmental factors affecting learning and instruction

(b) students' attitudes to schooling

(c) instructional patterns and student response.

The investigation of (c) focused on two specific curriculum areas - Language and Mathematics.

The research proceeded in three phases. In the first phase a survey was conducted on the formal work structure of secondary education. This consisted of a descriptive analysis of selected factors in the school situation considered relevant to learning success. In the main these factors were physical conditions, instructional facilities and material, teacher qualifications, and organisational patterns both in the school system as a whole and within the individual school and classroom. The results of this survey, which was really an elaborate extension of an earlier UNESCO investigation (Germanacos, 1963), are presented in Bentt's "A Statistical Analysis of Factors in the Formal Work Structure of Secondary Education in Guyana, January to July 1969" (Bentt, 1969).

The main findings of this analysis were:

1. The median size of classes in secondary schools was not far from the thirty-five recommended for the newer schools in the project report of the International Bank for Reconstruction and Development.

2. Fifty two percent of the schools sampled employed heterogeneous groupimg of students.

3. Teaching aids and equipment as well as library and text books were inadequate for the needs of most schools.

4. Most of the secondary schools had walled classrooms, while most of the secondary departments of the 'all-age' (6-16) schools had a "hall-type" arrangement.

5. The subjects stressed in secondary education were of the "academic" literary and scientific type, with little or no provision for technical or agricultural studies.

6. A qualification level of teaching (Quallot)measure revealed that an almost equal amount of teaching was done at secondary level by university graduates as by teachers with General Certificate of Education Advanced Level qualifications, but only two categories of schools could claim to have a fair proportion of trained and/or experienced graduates on their staff.

In phase two, V. M. Bentt (1971) made a study of "The Attitude of Guyanese Students to their Schooling at the Secondary Level" following up on an earlier work by C. L. Baird (1971) on "Preoccupations of a Sample of Adolescents Receiving Secondary Education in Guyana".

Summary of Attitude Study

1. Assumptions

The major assumption on which this study was based was that students locally have a more or less negative attitude to their schooling at the secondary level.

2. Design

(a) The school population was categorised into eight strata and eighteen schools were randomly selected for study.

(b) A projective device of the sentence completion type was employed for data gathering.

(c) Fifteen frames of reference of which "certification" was a major frame were formed.

3. Results and Conclusions

It was found that more than two thirds of the school population sampled approached their schooling with a limited attitude - school being seen only as a place affording students the opportunity of acquiring job certificates. Inter-form and inter-sex comparisons revealed that there were significant age and sex differences ($p=.01$) when the statistic chi-squared was applied.

Taking into account the degree of negativism which seemed to pervade the responses of most of the students the evidence seemed to suggest that Guyanese students in the main had a very restrictive view of the function of their schooling at the secondary level. This state of affairs was seen to have serious implications for teacher selection and training. Since student teachers were themselves products of the school system, if selection was not carefully made, one would start with trainees whose attitude patterns had to be changed, lest their classroom behaviour produced similar patterns in their students.

These preliminary surveys served as a guide for the selection of school and class samples and for identifying some of the educational, socio-economic and attitudinal variables that acted as constraints on the process of curriculum development.

Phase three was action oriented. Working in two curriculum areas, Language and Mathematics, the research team, after examining instructional patterns and student response in these subjects in selected schools, organised projects aimed at improving pupil performance by modifying instructional variables hypothesized as crucial. It must be noted that the execution of these projects was only possible through the unreserved and active support of the Ministry of Education and the participating schools. To date the Language project is still in progress. The results of the Mathematics project are reported in what follows.

The Mathematics Experiment (Bentt, 1971)

Attitude and performance had so often been linked by local educators that it seemed to urge that some functional aspect of school life which contributes to performance and which may affect attitude be isolated for experimental study. With this in mind the decision was taken to look experimentally at methods of teaching and use as content mathematical topics of the third year syllabus of Guyana secondary schools.

The Problem

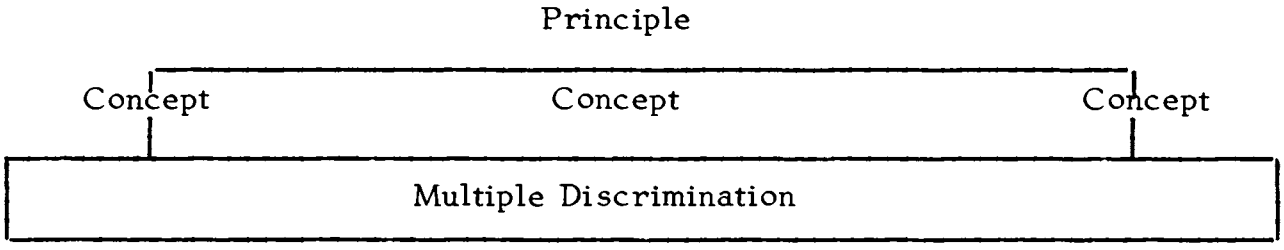
In the study, then, the independent variable was curriculum, defined operationally as what is taught and how it is taught, and the dependent variable was response as measured by performance on achievement tests. It was hypothesized that meaningful concepts increase the ability of students to learn mathematical concepts and principles. The experimental problem was therefore primarily a cognitive one, but an underlying assumption in the affective domain was that attitudes of teachers, as reflected in their teaching styles, would be difficult to change, therefore training sessions providing considerable immersion for participants would be necessary.

The Organisation of Teachers, and Experiment

The "seminar with workshop" approach was adopted, and this involved programmes of orientation, writing of material and construction of learning aids.

The preparation of teaching and learning material, apart from being guided by the cognitive and affective assumptions previously mentioned, was based on the sequential structure for the learning of Mathematical principles and concepts shown below. What this means is that concepts are learned through multiple discrimination and principles are learned through the application of concepts.

A Mathematical Learning Structure



Furthermore, groups though divided along "subject" lines were advised to see mathematics unitarily and not severally as Arithmetic, Algebra and Geometry.

Design

The experiment was carried out in the following manner:

(a) Two classes were chosen for each of four schools and assigned at random to control and experimental groups.

(b) Both experimental and control classes were pre-tested.

(c) The same teacher taught both experimental and control classes.

(d) The same topics were taught in both classes except that the control class was taught "traditionally" and tested before the very topic was tried out in the experimental class.

(e) The children who comprised the sample in both classes were those who would have attained the age of sixteen years or under by the end of the school year.

(f) Entering performance of each child was compared with terminal by co-variance analysis.

Results and Conclusion

Statistically significant ($p=.05$ or $.01$) differences between the performances of experimental and control groups were obtained in two of the four schools; but the F ratio of 15.28 for the four schools taken as a whole was reasonably close to the 18.51 necessary for significance at .05 to encourage a conclusion that there seems to be a great deal of promise in the type of programme experimented with, and that with modification the programme could gainfully be extended to other levels of secondary education.

The results of this programme have certain implications for teacher training. The experiment used as methodical approach, concrete and ikonic references in the teaching and learning situation. Since it is not possible to have meaningful concrete and ikonic references without appropriate aids, opportunity to make these should be given during preliminary training and in periodic refresher courses, for the teacher caught in the hurly-burley of school life and personal affairs never seems to have enough time for the preparation of teaching material.

The experiment provided some valuable insights too into the possibilities of curriculum research as a vehicle for in-service teacher education. A common problem in teacher education courses is a tendency for lectures in Theory to be divorced from the practical day to day problems of the teacher (see Paffard, 1969). In a curriculum research project participating teachers are confronted with the necessity to address their attention to actual classroom problems as well as to studying the theories underlying their teaching experiments. As Broomes (1972) writes "...it seems that the best place to learn curriculum is in schools from persons engaged in developing it, and the persons best motivated to learn curriculum are those who are seeking answers to day to day problems in schools".

The improvement in teacher behaviour seen in many of the teachers who took part in the various teaching experiments suggests that much benefit can be gained from initial and refresher teacher education courses centered around experimental curriculum projects.

The Faculty of Education has just received another grant from the Carnegie Foundation to conduct and extend its work in curriculum, and has institutionalised this function of curriculum research and development by establishing a permanent Department of Curriculum Development. While research projects of the kind described will be rigorously conducted to discover effective procedures of instruction, the Department will utilize whatever findings are currently available to embark on a wider scale of in-service teacher education and of development and revision of school curricula.

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SOCIOMETRY IN THE CLASSROOM

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Summary

Reference: Vol.2 (1969) J8 (p.123)

The rapid developments in the study of small group behaviour, the findings that behaviour of a group is determined to a large extent by the patterns of communications that develop and by the nature of the structure or structures that form as a result of the interaction, the fact that most of the teaching in schools is done in classes (or groups), the fact that teachers are often heard speaking of "difficult" classes where everything seems to go wrong, and "good" classes where the general 'tone' is usually fine, and the realisation by teachers that the classroom climate has an important influence upon an individual's learning and behaviour, all point to one thing, namely, that classroom group behaviour is becoming an important study for teachers and counsellors. The day does not seem to be far off when understanding, predicting and improving classroom group behaviour will become a part of a teacher's needed professional knowledge. The teachers will be required to learn the skills necessary to develop the classes into cohesive groups that have good morale, and work co-operatively for students' social, emotional and intellectual development.

This study was undertaken to provide teachers and counsellors with a handbook [1] on the principles and procedures of Sociometry that have significant implications for educational practice. It was based on empirical studies and programmes planned for an carried out in actual classroom situations, in view of the fact that so far little work had been done in sociometric research in India in general and in the classroom in particular.

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1 Sharma A. Handbook on Sociometry for Teachers and Counsellors. National Council of Educational Research & Training, New Delhi (under print).

The handbook is organised into three parts following an introductory chapter which discusses the role of the classroom group in the teaching-learning process. The first part is devoted to the sociometric technique and the method of collecting sociometric data. Stepwise procedures for constructing and administering the sociometric tool, as also for recording, analysing and interpreting sociometric results are presented. Validity and reliability of sociometric data have been discussed and the typical sociometric results for students from 6th grade through 11th grade are presented to give an idea of the incidence of 'accepted' and unaccepted pupils at various grade levels. The second part is devoted to the findings of three research studies pertaining to the personal and social factors related to sociometric status. The third part deals with the application of sociometric results for the improvement of social-emotional climate of the classroom. The findings of three action programmes - sociometric seating, sharing responsibility, and study of biographies are described in different chapters. In the last chapter some possible applications of sociometry throughout the school have been discussed.

A summary of the three research studies and of the three action programmes are given here in 2 sections:

A. Research Studies I, II, III.

B. Action Programmes I, II, III.

Report

Section A

Study I: Some correlates of Sociometric Status

A study was undertaken to investigate the relationship of intelligence, academic achievement, personality adjustment, interest patterns, life at home, and life at school to popularity and isolation.

The Sample

Class VII students of three higher secondary schools - one boys', one girls' and one co-educational, situated in the same locality of Delhi were the subjects of this study. All the three schools had equal reputation in public regarding their educational standards, achievement, tone, discipline etc., and attracted pupils from homes of the same level of socio-economic status. There were 2 sections in the boys' school, three in

the girls school, and three in the co-educational school. In each section there were about 35 students, treated as one group for the study. Thirty two populars and twenty seven isolates were identified from the eight groups on a three criteria - three choice sociometric questionnaire using the Bronfenbrenner's Fixed Frame of Reference. [1]

Intelligence was measured through Ravan's progressive Matrices Test. [2] The academic achievement was measured through the aggregate of marks obtained by the students in the final examination conducted by the schools.

The personality adjustment was determined by administering Vyaktitava Parakh Prashnavali's [3] personality adjustment inventory to study their adjustment. The inventory provides a total adjustment score as well as five separate measures of adjustment in different areas, viz, home adjustment, health adjustment, social adjustment, school adjustment, and emotional adjustment. A high score on this inventory indicates a superior adjustment while a low score shows a poor adjustment.

The interests of populars and isolates were identified by using the Chatterjee's Non Language Preference Record [4] in ten broad areas, namely, literary, fine arts, scientific, agricultural, technical, medical, crafts, outdoor, sports and household.

The family is a miniature society of which a singular feature is constant interaction between the members. The interactive process in the family takes place at various levels. Seven aspects of family life were studied through a checklist [5] to determine the interactive process and the scope and limitation of this process on popularity and isolation. The seven aspects included in the checklist and the items included under each aspect are shown in Table 1. The items were blocked together on content basis alone into sub-groups.

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1 U. Bronfenbrenner. The Measurement of Sociometric Status, Structure and Development. Sociometry Monograph No.6, New York, Beacon House, 1945.

2 Raven J.C., Standard Progressive Matrices, Sets A, B, C, D and E. H.K. Lewis & Com., Ltd., London, 1958.

3 Saxena M.S.L. Vyaktitva-Parakh-Prashnavali (MA-62, Banaras Hindu University, Varanasi-5.

4 Chatterji, S. Chatterji's Non-Language Preference Record, Form 1962, Bratalaya, Station Road, Patna 1.

5 S. Aatish. A study of Leadership Among Adolescent children in Delhi Schools. Unpublished Thesis.1963.

Table 1: Family Life Aspects and Number of Items Included in each Category.

S. No.	Aspects of Family Life	No. of Items
1.	Emotional Life	15
2.	Discipline & Control	10
3.	Social Weaning	10
4.	Social Status	25
5.	Intellectual & Cultural Activites	15
6.	Economic Aspect	10
7.	Religion & Conviction in God	12
	Total	77

Although the school does not have the total responsibility for the social-personal development of children, it is an important institution providing some assistance. Eight aspects of school life were studied through a checklist [1] to determine the classroom atmosphere and its effect on popularity and isolation. The eight aspects included in the checklist and the number of items included under each aspect are shown in Table 2. The items were blocked together on content basis alone into subgroups.

Table 2: Eight Aspect of School Life and Number of Items under each Category

S. No.	Aspects of School Life	No. of Items
1.	Class Atmosphere	15
2.	Discipline	10
3.	Teacher-Student Relations	10
4.	Student-Student Relations	15
5.	Teacher-Teacher Relations	10
6.	Extra-Curricular Activities	10
7.	Moral Education	10
8.	Guidance & Counselling	20
	Total	100

[1] S. Aatish, Ibid.

Since no scale was available to determine the socio-economic status, the parental occupation, income, education etc. were analysed.

Findings

The results of the investigation may be briefly summarised as under:

1. The populars, on the average were of higher intelligence than the isolates and scored higher in the scholastic achievement also. The difference betwen their mean intelligence scores as well as between their mean achievement scores was significant at 1% level.

2. The populars had a better adjustment than the isolates in the five areas - home, health, social, emotional, school, and on the whole (total personality adjustment). However, the differences in any one area or the total personality were not statistically significant.

3. The interest profiles of popular boys and girls and isolates boys and girls were almost similar. The intra-interest differences were larger in the case of populars than those of the isolates.

The three most liked interests of popular boys were scientific, mechanical and technical, while those of isolate boys were mechanical, scientific and sports. The three least liked interests of popular boys were outdoor, household and fine arts, whereas the least liked interests of isolate boys were household, agriculture and crafts.

The popular girls showed more interest in mechanical scientific and fine arts, whereas the isolate girls showed more interest in literary, mechanical and household areas. The least liked interests of popular girls were outdoor, crafts and household, while those of isolates girls were technical, crafts and outdoor.

4. The populars and isolates had almost similar home life, and the number of problems checked by them was low. The problems of family life were found to have little influence on sociometric status of a pupil (Rho=-.05).

In the "discipline and control" aspect of family life there was a significant difference between the scores of populars and isolates. The most grievous factors associated with the discipline and control appear to be inordinate comparisons, public confession of faults, non-acceptance of explanations of mistakes, and planning and organisation of their activities by elders.

5. The populars and isolates reported more problems in school life as compared with family life. Also the isolates had more problems than the populars in almost all aspects of school life. The school life was not conducive to the social personal development of the children (Rho=-.48).

The populars had a larger number of problems (median score being five) in the areas of 'extra-curricular activites' and 'guidance & counselling'. The isolates had the largest number of problems (median score being nine) in the 'guidance & counselling' aspect, but their problems in the 'class atmosphere' aspect (median score being seven) and in extra-curricular activities' aspect (median score being six) were also in no way less. It was rather unfortunate that the function of guidance had received

little attention in the school understudy (and this was true of almost all the Indian Schools), and its services were not made available to students. More than this, the schools neither know nor do they attempt to determine the needs of the students and their ability to meet these needs.

6. The median monthly income of the parents of populars was Rs. 700/- and it was 1.75 times the median monthly income of the parents of isolates (Rs. 400/-).

The fathers of populars had better education than those of the isolates. This was also true of their mothers; mothers of 23% populars were graduates while none of the isolates had mothers having education to that level.

7. The median position amongst siblings of populars was fourth and that of isolates was second.

Study II: Social Skills and Activities and Social Status

This study was undertaken to provide some understanding of the actual nature and frequency of social skills and activities possessed by adolescent students and to compare the social skills and activities of the popular, neglectee, isolated and rejectee.

The Sample

Class IX students of three Higher Secondary schools - one boys', one girls' and one public school of Delhi were the subjects of this study. Two higher secondary schools were housed in the same building, the girls' school functioning in the morning and the boys' school functioning in the evening. There were 4 sections in the boys' school, three in the girls' school, and three in the public school.

The populars, neglectees and rejectees were first identified separately on two tools - Sociometric Questionnaire and a Social Acceptance Scale. On both the tools unweighted scores on the criteria taken compositely were used for labelling the various social categories. The method of classifying the pupils into sociometric categories was based on Bronfenbrenner's Fixed Frame of Reference. Those obtaining the same status on the two sociometric tools were regarded as belonging to the categories of populars, neglectees, rejectees and isolates.

There were 37 populars (11.01%), 48 Neglectees (14.29%), 3 isolates (0.89%) and B rejectees (2.38%).

Social Skills and Activities Scale

A social skills and activities scale was constructed for the study. All the boys' higher secondary schools of Delhi were stratified into four zones and schools were selected from each zone proportionally to contribute approximately an equal number of subjects, 1889 students studying in the ninth class of the twenty one schools thus selected were asked to write down the skills and activities performed by them 'in the school', 'at home' or 'at any other place' on a plain sheet of paper supplied to them. The modal age for the group was fourteen plus.

The skills and activities were analysed, listed and the frequency distributions for each of them prepared. It showed that the adolescents were engaged in a variety of skills and activities, 50 skills and activities having the largest frequency were included in the scale, some skills and activities which were regarded as important were also included in it. The skills and activities were classified into ten broad categories.

Inter Item Correlations

To study the relationship between the different skills and activities product-moment r's were calculated on the I.B.M. tabulater. The co-efficients of correlation having a value .153 or more were statistically significant at 1% level. While this value of r(.153) is itself not high, 762 correlations coefficients were not significant even.

Table 3: Size of Inter Activity Correlations.

Size of r	Frequency
Less than .20	1260
.20 - .40	1126
.40 - .70	64
.70 and above	----

From the above table it is obvious that no correlations were high, and the number of moderate correlation coefficients was 64 only, of which 48 were of the order of 0.4, 14 were of the order of 0.5 and 2 were of the order of 0.6. Therefore, the skills and activities included in the scale could be regarded as fairly independent.

Inventoried Social Skills and Activities

Information regarding the skills and activities was obtained by asking subjects to check those activities in which they participated in the school, at home or at any other place. The medians, upper-quartiles and lower-quartiles of social skills and activities scores for Populars, Neglectees, Rejectees and Isolates were worked out. They are shown for the different groups in the table below.

Table 4: Upper Quartiles, Median & Lower Quartiles of Social Skills of Populars, Neglectees, Isolates & Rejectees.

S.No.	Group	Statistics	Populars	Neglectees	Isolates	Rejectees
1.	Boys School	N	15	21	-	3
		P75	18.25	17.25	-	18
		P50	12.00	10.50	-	15
		P25	4.75	6.75	-	8
2.	Girls School	N	14	19	2	2
		P75	19.25	17.50	-	-
		P50	12.50	9.00	-	-
		P25	6.75	3.75	-	-
3.	Public School	N	8	8	1	8
		P75	17.75	20.25	-	26.00
		P50	12.50	17.00	-	17.50
		P25	4.75	13.25	-	13.00

It is seen from the above table that for the boys the median social skills scores for the populars was more than that of the neglectees but it was less than those of the rejectees.

For the girls also the median social skills score was higher than that of the neglectees but it was less than that of the rejectees.

For the public school, the results were opposite to those of the boys' and girls' schools. The median social skills score for the populars was less than those of the neglectees and rejectees; the latter had the highest median score.

Listed Social Skills and Activities

Check lists and inventories are useful in determining the skills and activities of secondary school students but the results can be faked in order to give a more socially desirable picture of their skills and activities and it is rather difficult to determine the accuracy of the skills and activities checked by them. Therefore, it is recognised that data from inventories should also be supplemented.

With a view to supplement the data obtained from the social skills scale the students were asked, about a month before administering the social skills scale, to list the skills and activities performed by them in the school, at home or any other place, on a blank sheet of paper.

Number of Skills

The analysis of the expressed skills indicated that only few new items were reported by the students in addition to those included in the

social skills' and activities scale. These items were: Pen Friend, Arranging Exhibition, Debates, Handicraft, Carpentry, Hide and Seek, Tennis, Base Ball, Sports, (Javelin Throw, Shot Put, High Jump, Long Jump, Discuss Throw, Throw Ball), Skating, Shooting, Riding, Leather Work, Clay Modelling and Science Club. However the frequencies of these new additions were very small.

The medians, upper-quartiles and lower-quartiles of listed social skills and activities for Populars, Neglectees, Rejectees and Isolates are shown for the different groups in Table 5.

Table 5: Upper-Quartiles, Median & Lower-Quartiles of listed Social Skills of Populars, Neglectees, Isolates and Rejectees.

S.No.	Group	Statistics	Populars	Neglectees	Isolates	Rejectees
1.	Boys School	N	15	21	-	3
		P75	5	5	-	10
		P50	3	3	-	2
		P25	2	1.50	-	0
2.	Girls School	N	14	19	2	2
		P75	4	4	-	-
		P50	3	3	-	-
		P25	0	1	-	-
3.	Public School	N	8	8	1	8
		P75	7.50	9.75	-	10.50
		P50	4	4.50	-	6
		P25	3	3.25	-	5

Thus, for the boys and the girls schools the median scores for the populars and the neglectees were the same. It was only 3 for all the four groups. Further it was seen that these medians for listed activities were lower than the checked skills and activities. The popular boys and girls were seen to have higher median scores than the neglectees. Thus it appeared that while both the populars and neglectees had tried to fake the results the populars tried to paint a more desirable picture of themselves.

For public school, the median social skills score for the populars was less than those of the neglectees and rejectees. The latter had the highest median scores. Although the medians of listed skills and activities were less than the medians of the checked skills and activities the nature of the results was the same for both; that is, the rejectees possessed more skills and activities than the neglectees, who in turn possessed more than the populars.

The results of the investigation may be briefly summarised as under:

1. 50 skills and activities which were almost independent and were performed by a larger number of students reading in class IX constituted the social skills scale.

2. The median inventoried skills and activities of popular, neglectee and rejectee students of Boys, Girls and Public school were:

School	Popular	Neglectee	Rejectee
Boys	12	11	15
Girls	13	9	22
Public	13	17	18

3. Thus for the higher secondary schools the populars possessed more skills and activities than the neglectees but less than those of the rejectees. However, for the public school, rejectees performed the largest number of skills and activities, and even the neglectees possessed more skills and activities than the populars. In other words, the hypothesis that possession of social skills and activities is an important factor in being accepted socially by one's group has little evidence in its favour.

4. The percentage of inventoried common skills and activities of the popular and neglectees and popular and rejectees are tabulated below.

School	Populars & Neglectees	Populars & Rejectees
Boys	37.47%	3.97%
Girls	43.60%	38.45%
Public	48.39%	56.04%

5. There were no significant differences in the percentage of different categories of boys and girls performing various skills and activities,but in the case of the public school the proportion of neglectees (100%) engaged in reading magazines/novels/stories was significantly higher than the proportion of populars (37.5%) engaged in it; and the proportion of rejectees (87.5%) engaged in learning music was also significantly higher than the proportion of populars (0%) engaged in learning music.

6. Due to social desirability phenomenon all categories of students checked more skills and activities than what they listed.

7. The percentage of listed common skills and activities of the populars and neglectees, and populars and rejectees were:

School	Populars & Neglectees	Populars & Rejectees
Boys	38.42%	34.76%
Girls	80.31%	56.19%
Public	35.88%	26.59%

8. There were no significant differences in the percentage of different categories of boys and girls performing various skills and activities, but in case of the public school the proportion of neglectees (75.00%) engaged in reading magazines/novels/stories was significantly higher than the proportion of populars (12.50%) engaged in it; the proportion of rejectees playing football (75.00%) was significantly higher than the proportion (50%) of neglectees, and also the proportion (87%) of rejectees playing hockey was higher than that of populars (37.50%).

9. It appeared that students in particular, and the public in general, lacked the skill to make worthwhile friends, to live in a democracy, and to become increasingly self directive. It was, therefore, suggested:

(i) That education should aim at excellence in all areas of human growth rather than 'excellence' in academic fields only.

(ii) That co-curricular activities when properly planned and executed contribute to the total development of the personality of the student.

(iii) That the criteria for determining the number of activities to be performed should be, 'school activities of the student, by the student, for the student'.

(iv) That the time and effort consumed in extra curricular activities did not affect the achievement of pupils in curricular subjects.

Study III: Personality Characteristics and Sociometric Status

The term personality is frequently used in our present day terminology to refer to man's behaviour and characteristics. The commonest way of talking about it is through trait vocabulary by describing a person as ambitious, aggressive dependent etc.

A practical reason for speaking of personality in terms of traits, apart from the reason of understanding behaviour, is, that it has to do with the problem of anticipating or predicting what an individual may do in future on the basis of what we know about him in the past. Such predictions are an important part of our every day social behaviour and essential for social success and achievement in various occupations.

Further, it is the common traits (and not the unique traits) which are important in every day social behaviour. Common traits are found widely distributed through the population or among certain groups and are useful for evaluating the behaviour of persons in general.

Teachers, counsellors, psychologists must be able to discover interrelationships within the whole personality, the syndromes or clusters of

traits which are most essential for certain purposes, for instance, social success or achievement in various occupations.

The study was extended to discover the personality characteristics of popular, neglectee, isolated and rejected students.

The Sample

The sample was the same as for Study II, classified on the same basis into sociometric categories.

Guess Who Rating Scale

The Guess who technique is a device whereby bipolar trait ratings of a group of children may be obtained by using the members of the same group as the raters. It is one of the few promising tools which yield information regarding the way each member of a large adolescent group is perceived by the group. To have a wide coverage of the personality traits 40 pairs of brief positive and negative description of common personality traits were included in this scale. The traits were seemingly mutually exclusive.

The Scale was administered to 325 students reading in ten sections of ninth class of three schools - one boys', another girls' and one public school of Dehli.

Scoring

Scoring was done by using the following three formulae.

Formula A[1] Trait Score =

(No. of positive mentions) - (No. of negative mentions).

Formula B[2] Trait Score =

$$\frac{\text{No. of positive mentions}}{\text{Total No. of pos. and neg. mentions on the trait}} \times 100$$

Formula C[3] Trait Score =

$$\frac{(\text{No. of pos. mentions}) - (\text{No. of neg. mentions})}{\text{Total No. of mentions on a variety of traits}} \times 100$$

Formula A gave a Lepto Kurtic distribution with a mean at zero ranging from -22 to +23. Formula B gave a U shape. Formula C gave a normal distribution.

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1 Hugh Hartshrone, Mark A. May, & Frank K. Shuttleworth, Studies in the Organization of Character, New York: The Macmillan Company 1930, pp. 503.

2 Robert J - Havighurst & Hilda Taba, Adolescent Character & Personality. New York: John Wiley & Sons. Inc., 1949. pp. 315.

3 Keislar E.R., An Improved Formula For Sorting Certain Guess Who Ratings At the Adolescent Level, "Journal of Educational Psychology, Vol. 45, 1954.

On the basis of the empirical comparison of the forms of distribution of scores obtained by the three formulae, formula C appeared to be more suitable as the distributions of the different traits approximated normality and the statistical technique based on the normal curve model could be used with confidence in dealing with problems involving them.

Inter Item Correlations

To study the relationship between the different personality traits included in the scale, product-movement r's were calculated on the IBM tabulator.

The coefficient of correlation having a value of +.110 or beyond were statistically significant at 5% level. While this value of r (.110) is itself not high, 347 correlation were not significant even. The frequency distribution of sizes of 'r' is shown in the Table below.

Table 6: Size of Inter Trait Correlations.

Size of r	Frequency	Size of r	Frequency
-.40 to -.21	12	.12 to .20	198
-.20 to -.12	27	.21 to .40	152
-.11 to -.01	113	.41 to .70	04
.00 to .11	234	.70 to above	Nil

Thus, it is seen that no correlation was high and the number of moderate correlation coefficient was 4 only. It is, therefore, evident that the traits included in the scale were almost mutually exclusive, and could form a good basis for studying the personality characteristics. However, five items which greatly deviated from normality, as also did not discriminate between accepted and unaccepted pupils, were dropped from the scale.

Personality Characteristics

The scores for the 35 personality characteristics included in the scale ranged between -12.50 and +12.50. A positive score meant possession of the positive trait described by the statement, and a negative score the possession of the negative characteristic. The means and standard deviation for the populars, neglectees, isolates and rejectees were worked out and profiles for the four groups of students drawn.

From the profiles it was evident that the personality pattern of isolates, neglectees and rejectees (that is of unaccepted students) were somewhat similar, and they were different from those of the populars (that is accepted pupils). A glance at the personality profiles of populars, neglectees, and isolates and rejectees revealed that, corresponding to peaks in the profiles of populars, there were depressions in the profiles of neglectees, isolates and rejectees. The populars generally possessed positive characteristics. The mean scores for all the characteristics except two were positive. The isolates and neglectees had generally negative traits. The rejectees too possessed negative traits, and the mean scores for all traits except one were negative. The profiles of isolates and rejectees were similar.

The rank difference correlation between the mean personality characteristics scores of populars and neglectees, populars and isolates populars and rejectees worked out to -.59, -.50 and -.71 respectively which indicated that the relationship was negative and high although it was not perfect. On the other hand, the rank difference correlation between the mean trait scores of neglectees and isolates, neglectees and rejectees, isolates and rejectees worked out to +.68, +73 and +.77, which was positive and high although not perfect. Thus, the personality characteristics of unaccepted students (neglectees and isolates) were quite similar, whereas those of accepted and unaccepted students were quite dissimilar.

The traits of these four categories of students,arranged in their rank order, are shown in Table 7.

Table 7: Personality Characteristics of Populars, Neglectees, Isolates & Rejectees Arranged In Rank Order.

Rank Order	Populars	Neglectees	Isolates	Rejectees
1.	Assertive	Non-confident	Submissive	Non-confident
2.	Confident	Non-group Participation	Non-confident	Coward & Weak
3.	Group Participation	Selfish & non-cooperative	Coward & Weak	Non-group participation
4.	Good looking	Cowardly & Weak	Selfish & non-cooperative	Selfish & non-cooperative
5.	Responsible	Not humourous	Shares no responsibility	Lazy & careless
6.	Shares Responsibility	Lazy & careless	Needs pressure to finish work	Shares no responsibility
7.	Well informed	Submissive	Not calm & not restrained	Not good looking
8.	Courageous & Vigorous	Not calm & not restrained	Silent	Lacks initiative
9.	Friendly	Shares no responsibility	Indifferent	Not humourous
10.	Cheerful	Not good looking	Not good looking	Unfair & dishonest
11.	Liked by others as work companion	Lacks initiative	Irresponsible	Every one dislikes to work with him.
12.	Has initiative	Not liked by others as work companion	Lazy & careless	Not calm & not restrained
13.	Humourous	Irresponsible	Lacks initiative	Silent
14.	Helpful & cooperative	Needs pressure to finish work	Lack of social sense	Untidy

Rank Order	Populars	Neglectees	Isolates	Rejectees
15.	Sympathetic	Indifferent	Ignorant	Irresponsible
16.	Good natured	Rude	Inferiority role	Not humorous
17.	Fair & Honest	Does not admit a mistake	Does not admit a mistake	Needs pressure to finish work
18.	Tidy	Untidy	Not good natured	Takes other's things without permission
19.	Seeks additional work	Not active in games	Does not enjoy jokes on himself	Does not enjoy jokes on himself
20.	Daring	Inferiority role	Untidy	Indifferent

Thus, it became evident that popular children were aggressive and overt in the responses shown by the personality characteristics - assertive, courageous and vigorous, confident superiority role, plays active games, seeks additional work and has initiative. The finding is against certain traditional and normal teaching which over-emphasises obedience, conformity and submissiveness. It seems that to be well-accepted a child, as well as an adult, must possess some positive attributes which enable him to make himself count in a group. A person is more popular far more because of what he does than because of what he refrains from doing. If he does vigorous things which make him stand out from the group and win admiration, he has a much better chance of being well-accepted (even though he has some obnoxious personal defects) than has a person who has no offending personal traits, but who is unable to make his personality register on the group. Popularity is tied up with marked and strong personality characteristics rather than with negative and neutral abilities and characteristics.

Being friendly, good looking and tidy are other characteristics which make persons popular. Emphasis is usually given by popular writers on social success to such personal appearances.

Personality traits like social sense, sympathy, helpfulness, good nature, group participation, to be calm and restrained are characteristics found in most socially successful persons for maintaining good human relations. Such characteristics contribute to a feeling of confidence, and to gaining success with persons of all ages - younger, equal in age, and older.

Implications of the results

Thus, characteristics which proved most significant in differentiating between accepted and unaccepted children fall into three syndromes: (1) strong, aggressive personality characteristics, (2) characteristics that count in direct inter-personal contacts (3) characteristics that are important in making better human relationships. The first syndrome has been over-looked by moral and religious education. Great emphasis is laid on conformity, and submission to authority; and the importance of the first syndrome has also not been very well appreciated by popular writers, who have usually laid greater emphasis on characteristics falling in the third syndrome.

Another implication is that popularity and winning of friends are not the superficial things that they are often assumed to be; rather they are tied up with the most basic qualities of personality and character. Reading a book on how to win friends and influence people cannot possibly have the value which many people believe. To parents and teachers who are concerned with the social success of children, it is suggested that they should develop in their wards a wide range of abilities. Also, enough flexibility in group control should be allowed to permit the development of some daring and initiative, and some socially approved aggressiveness. But this is not enough. Ability alone is no guarantee of being liked. There must also be skill in the art of friendly intercourse. There is a warning in this point for those teachers and parents who assume that because a child has an outstanding ability which others admire, and may occassionally be elected to positions of leadership, that he is well liked and is on the road of personal happiness. Although this assumption would generally be true, there are enough exceptions to warn against its uncritical acceptance. The attitudes and kinds of behaviour essential to friendliness must also be developed.

The results of the investigation are summarised as follows:

1. Three formulae were applied to analyse the scores obtained to 'Guess Who? Social Analysis Scale? The formula Trait Scores = $\frac{\text{(No. of Pos. mentions) - (No. of Neg. mentions)}}{\text{Total No. of mentions on a variety of traits}} \times 100$ gave a normal distribution of personality characteristics scores and was, therefore, used in the study.

2. 35 personality characteristics which were almost independent and which discriminated between accepted and unaccepted pupils constituted the social analysis scale.

3. The personality characteristics of unaccepted pupils were quite similar whereas those of accepted and unaccepted students were quite dissimilar.

4. It was noticed that personality trait scores decrease consistently as the degree of acceptance decreased. The scores of populars were generally positive, which indicated that they possessed positive characteristics. The scores of isolates were generally negative and they possessed negative characteristics. The rejectees too possessed negative characteristics.

5. Populars were found to be more aggressive and overt, having these characteristics - 'assertive' 'courageous and vigorous', 'confident', 'superiority rule', 'group-participation', and 'friendly'; whereas unaccepted pupils were more 'submissive' 'non-confident', 'coward and weak', 'selfish and 'non-cooperative' and 'non-group participating'.

6. Thus characteristics which proved most significant in differentiating between accepted and unaccepted children fall into three syndromes: (1) strong aggressive personality characteristics (2) characteristics that count in direct interpersonal contacts (3) characteristics that are important in making better human relationship.

Section B

Programme 1: Sociometric Seating and Classroom Social Relations

Whenever data is collected through a sociometric tool and the results have been analysed, the first step of improving social relations is that of putting the choices of students into effect. If the students were asked to choose companions for laboratory work, field trips for cocurricular activities, classroom commitees and the like, then these groups should be organised along sociometric lines. Similarly, if students were asked to select seating companions, the classroom seating arrangement should be done in accordance with their preferences. When students are grouped in a manner which provides each group member satisfying social experiences then it results in the development of a cohesive and interrelated group structure along with a desirable personal social development of the individual. The sociometric grouping is regarded as effective to the degree that it is beneficial to the individual and the group.

A programme was designed to study the effect of sociometric seating on classroom social relations.

The sample was class VII students of a Government Boys' Higher Secondary school, located in a Central Government Employees colony in New Delhi housing officers of grades I and III. However, the school also served children from a geographically adjacent locality, a rural population, in which families were in the lower socio-economic levels.

The students were categorised into five sociometric categories - Popular, Above Average, Average, Below Average, Neglectees and Isolates, by administering the three criteria - three-choice sociometric questionnaire, and using the Bronfenbrenner's fixed frame of reference.

One section of the seventh grade (VII B) was used as a control group; while the seating plan in another section (VII A) the experimental group, was arranged on the basis of inter-personal choices made. The enrolment of the control and experimental groups was 37 and 34 respectively.

Procedure for Sociometric Seating

The procedure for sociometric seating was as below:
(i) First the unchosen pupils (isolates) were placed with their higher choices. No two isolates were seated in a group. (ii) Next neglectees who received only one choice were considered. If the choice a neglectee received was reciprocated by him, he was seated with the pupil with whom he had the mutual choice regardless of the level of choice. Then an attempt was made to satisfy his first choice, or the highest level of choice it was possible to satisfy without disrupting the groups that were already formed. (iii) Choosing seating companions was continued from pupils receiving the smallest number of choices to the pupils receiving the largest number of choices. In each case, attempt was made to satisfy the chooser's mutual choices first and his highest level of unreciprocated choices next.

The new seating plan was introduced in January, 1968 in the experimental section. This plan was continued till April, 1968, that is, for a period of 120 days approximately. The sociometric questionnaire was then re-administered to determine the changes in social structure resulting from sociometric seating. The sociometric questionnaire was also administered to the control section.

Changes in Social Status of Unaccepted Pupils

What changes occurred in the Sociometric Categories during the 120 days period can be studied from Table 1.

Table 1: Sociometric categories of students (Experimental Group)

Post Sociometric Seating

Pre-Sociometric Seating: Sociometric Category	P	AA	A	BA	N	I	Total
P	2	0	1	0	0	0	3
AA	2	0	0	2	2	0	6
A	1	1	1	2	3	0	8
BA	0	1	6	6	0	0	13
N	0	1	0	0	0	0	1
I	0	0	0	0	2	0	2
Total	5	3	8	10	7	-	33

Table 2: Sociometric Categories of Students (Central Group).

Post Sociometric Seating

Pre-Sociometric Seating: Sociometric Category	P	AA	A	BA	N	I	Total
P	4			1			5
AA	1	1		1	1		4
A	1		2		2	1	6
BA		1	1	5	2	1	10
N			2	1	3	2	8
I					2	2	4
Total	6	2	5	8	10	6	37

From Table 1, it is seen that as a result of sociometric seating none remained unchosen (isolate). The two 'isolates' become 'neglectees'. The one 'neglectee' attained 'above average' category. Of the 13 'below average' category pupils 6 remained 'below average', 6 attained 'average' and 1 attained 'above average' category. Thus, it is noticed that 100% improvement took place in the 'isolate' and 'neglectee' categories and 54% improvement in the 'below average' category and there was no deterioration in these categories in the experimental group.

From Table 2, it is noticed, that during the 120 days period, of the 4 'isolates' 2 remained 'isolated' but 2 attained the 'neglectee' category. Of the 8 'neglectees' 3 remained 'neglectee'; 1 attained 'below average'

category, and 2 attained 'average' category, but 2 became 'isolates' also. Of the 10 'below average', 1 attained 'above average' and 1 attained 'average' but 2 became 'neglectees' and 1 even became an 'isolate'. Thus, it is seen that there was 30% and 25% deterioration in 'below average' and 'neglectee' categories respectively. The improvement in the 'below average', 'neglectee' and 'isolate' categories was 20%, 38% and 50% respectively in the control group.

The Wilcoxon Matched Pairs Signed-Ranks Test [1] was applied to test the Null Hypothesis that the social status of unaccepted pupils remained unaffected by sociometric seating. The hypothesis was rejected, in the case of the experimental group at the 5% level (N=14, T=20.5, 21 value required at 5% level) but was accepted in the case of the control group. (N=16, T=50, 30 value required at 5% level). It can thus be concluded that sociometric seating does affect the social status of pupils; it helps to improve social relations in a classroom.

Changes in Social Status of Accepted Pupils

From Table 1, it is noticed that, in the experimental group, out of the 3 populars 2 remained as 'popular' but 1 became 'average'; out of the 6 'above average' category pupils 2 improved their status and became 'populars' but 2 became 'below average' and another 2 became 'popular', 1 became 'above average' but 2 became 'below average' and 3 became 'neglectees'. Thus the deterioration in social status was noticed in all the categories of accepted pupils. It was 33% in the case of 'populars', 66% in the case of 'above average' and 62% in the case of 'average category'. The improvement in the categories of 'above average' and 'average' categories was 33% and 25% respectively. The deterioration in the category of accepted students (till they belong to one of the accepted categories) need not cause any anxiety; as the number of choices for a group is constant, and the receiving of more choices by some pupils decreases the sociometric score of others, which may in turn affect their social category.

From Table 2, it is noticed that in the case of the control group, out of the 4 'populars' only 1 became 'below average' and the remaining retained their category of 'populars'; of the 4 'above average', 1 remained above average, 1 became 'popular', 1 became 'below average' and 1 became 'neglectee'; of the 6 'average' 2 remained 'average', 1 became 'popular' but 2 became 'neglectee', and 1 was an 'isolate'. Thus deteriorations in social status was also noticed in the case of accepted category pupils in the control group. It was 20%, 50% and 50% respectively in the categories of 'populars' 'above average' and 'average'. The improvement in social status in each of the categories of 'above average' and 'average' was only 25%.

However, the Null Hypothesis of no significant differences in social status of accepted pupils in the 120 days period was accepted for both the groups: experimental (N=17, T-48.5 35 value required at 5% level) and control (N=15. T=57.5 25 value required at 5% level). It can be concluded, therefore, that the sociometric status of accepted pupils is not adversely affected due to sociometric seating.

The sociograms for the experimental group before and after sociometric seating were drawn; the sociogram for the second situation (after sociometric seating) indicated more inter-group relations and group acceptance of its pupils.

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[1] Sidney Siegel: Non Parametric Statistics for the Behavioural Sciences, International Student Edition, 1956, pp. 78-83.

Implications

Sociometric seating appears to be a useful technique of improving interpersonal relationships within a group. It appears to weaken the barriers which stand in the way of the formation of a cohesive class. It is felt that it can be a good supplementary technique to other group and individual techniques for improving social relations in the classroom.

Programme II: Sharing Responsibility and Classroom Social Relations

An opportunity for interaction is essential to good group living, and looking at the back of the head of the pupil in front and answering questions posed by the teacher is not group interaction. Interaction takes the form of discussion, planning, games and sports, student organisation, class organisation etc. However, if such experiences are to be valuable and meaningful, they must be selected purposefully, in terms of the maturity of learner.

The Government Higher Secondary School in which the study on 'Sociometric Seating' was conducted in one section of seventh class had another section which appeared to be lacking in group living and in understanding the value of give-and-take relationships that are fundamental to group action. The classroom behaviour of students of this section is described here.

When the investigator was first introduced to the class by the class teacher, he found that there was no order in the class. Some boys were moving in the class, some were laughing and whispering, some were throwing paper balls, some were eating groundnuts. One or two pupils were outcast and target of every joke in the class. Some were solving sums and some were reading books. When the students started introducing themselves the picture became more revealing. A few students were shy, and before they could introduce themselves fellow students called out their nick names by which they used to tease them; some were aggressive and introduced themselves boldly even in the face of opposition, and shouted at those who tried to pull their leg, and one or two found it impossible to tell their names.

The school 'controls' did not seem to work in this class, and no 'codes' seemed to have been developed by the class. The class behaviour was not at all conducive to the teaching - learning process or any other group activity.

What is an acceptable behaviour? The habit of listening (and this does not mean silent in-attention-when another speaks) is one element; control of voice and movement is another. Unless the student is addressing the class, his voice should not rise above a low conversational tone, nor should he speak when he has nothing of importance to say, or rush-from place to place, thereby disturbing his classmates. Consideration for others, politeness toward every member of the class, and a desire to cooperate; all these form the basis of acceptable behaviour. There is nothing new in these requisites; they have been observed in adult society.

Cause of Unacceptable Behaviour

All behaviour is directed towards satisfaction of needs - biological, psychological and social. But the need-satisfaction occurs predominantly in a social context. The first social group in time sequence for a pupil is

the family in which he is born. Behaviour which is acceptable to the culture and social group of the parents is rewarded and behaviour which is not acceptable to the parents is blocked by the withholding of rewards or by punishment.

When a child comes to a school he brings with him a unique view of himself and of the world. He has strong feelings and attitudes; he had definite values and purposes. Because ours is a multigroup society each child differs from every other child in these feelings and attitudes. Each has learned something different from his particular background, from his family, his neighbourhood, his community and his playmates.

Pupils from a low socio-economic group, because of the position of their families in the community, face a more complicated task than other children. They have difficulty in achieving status, in affiliating with others, in learning everyday skills, in retaining their own group membership while trying to obtain rewards and opportunities of other group membership.

Pupils from middle class families learn values and behaviours which are stringent and demanding. Their parents expect them to achieve high marks in schools, to win in competitive situations, to be independent of others.

Children learn different ways of expressing their feelings, e.g. two children described, "what I do when I get mad"? in two different ways:

(a) I go and sit on the back step and cry.

(b) I do not let my brother play and I hit him if he tells.

Children learn different ways of behaving toward other people, e.g., two pupils told what they do when they want something from their parents which they know their families cannot afford:

(a) I act awful good for a long time without mentioning what I want and then after a long while I ask for it.

(b) I quarrel and make things so unpleasant that eventually they give it to me.

Such terms as 'cooperation', 'responsibility','being a good group member', 'playing fair' etc. mean vastly different things to children from socio-economic and sub-cultural groups.

Although pupils have learned widely different social behaviours and purposes, the organisation and content of the typical school proceed on the assumption that all children have learned the same ways of behaving. Further, school follows a pattern of standard behaviour, and have expectations different from those which the majority of children have learned. It is difficult for any pupil to learn these new things in a short span of time.

The basis for rewards in school reflects middle class values and purposes. 'Good manners', 'high marks', 'compliance with adult regulation' are all rewarded by approval and by opportunities to hold certain positions, to participate in certain activities, and in short, to have more chances to learn and be rewarded for the same behaviours all over again.

The academic and selective criteria govern membership in activities. The practices in leadership selection narrow the number of children holding positions, since there is a tendency to reappoint or re-elect those who have already held such positions. Those who do participate in one activity, participate in many, both in and out of school. The majority of the students do not get a chance to learn new ways to get along in the class, and in the school, and in the larger society. Their many needs remain unsatisfied and find ways in unacceptable behaviour.

Implications

Thus a number of things happen which are inimical to classroom group mental health: (1) The students find themselves in a situation where they cannot express themselves emotionally as they learned to do; (2) they are confronted by discrepencies in behaviours, values and purposes; (3) they fail to understand why a certain behaviour is rewarded and another behaviour is punished; (4) they find their previous social-emotional learning not only ignored but devalued and even criticised; they are provided with little opportunities to affiliate with others and to feel that they belong. Therefore, there is a need to create a class atmosphere which is conducive to the group-living and the learning needs of children.

A programme was planned to study the effect of 'sharing responsibilities' on developing an atmosphere conducive to group living.

Class VII C students numbering 35 were subjected to the programme, and Class VII B students were used as a control group. The students were categorised into five sociometric categories - Popular, Above Average, Below Average, Neglectees and Isolates, by administering the three critieria three choice sociometric questionnaire and using the Bronfenbrenner's fixed frame of reference.

The main problems of the class were a lack of library and games facilities, and the unsatisfactory management of day-to-day affairs of the class by the class monitors. It was, therefore, decided that the class could elect their own library representatives, games captains and class monitors. The class should frame its own rules for managing the library, games and class affairs.

Two representatives, one senior and one junior for each of the three responsibilities were elected by the actual casting of a ballot. There were speeches seconding the nominations and speeches of acceptance by the pupils nominated. The folded ballots were collected and tabulated by the Experimenter. The winner shook hand with their opponents who pledged all support to the winners.

Next, the representatives worked with the class to frame the rules and procedures to manage their library, and games activities and the day-to-day class management affairs. The three teams managed their affairs till the end of academic session, that is, for a period of about six months. The principal afforded all cooperation in permitting the pupils to manage their affairs themselves.

Results

The sociometric questionnaire was administered to the experimental and control groups before introducing the action programme in the month of September, 1967, and at the close of the academic year April, 1968.

Changes in Social Status of Unaccepted Pupils

What changes occurred in the sociometric categories during the six months of the action programme can be studied from Tables 1 and 2.

Table 1: Sociometric categories of students (Experimental Group)

Pre-Action: Sociometric Category	P	AA	A	BA	N	I	Total
P	4	1	2				7
AA			3	3			6
A	1			1	1		3
BA	1	1	4	4			10
N		1	4	2			7
I					2		2
Total	6	3	13	10	3	0	35

Table 2: Sociometric categories of students (Control Group)

Pre-Action: Sociometric Category	P	AA	A	BA	N	I	Total
P	4			1			5
AA	1	1		1	1		4
A	1		2		2	1	6
BA		1	1	5	2	1	10
N			2	1	3	2	8
I					2	2	4
Total	6	2	5	8	10	6	37

From Table 1, it is seen that as a result of the experiences in group living none remained unchosen (isolate). The two isolates became neglectees. Also none of the seven 'neglectees' remained a 'neglectee' after the programme. They all improved their social status. One attained 'AA' category, 4 became 'average', and 2 attained 'below average' category. Of the 10 'below average' category pupils, 4 remained 'below average', 4 attained 'average', 1 attained 'above average' category, and 1 became 'popular' even. Thus it is noticed that 100% improvement took place in the 'isolate' and 'neglectee' categories, and 60% improvement in the 'below average' category. There was no deterioration in low social status categories in the experimental group.

From Table 2, it is noticed that during the six months of the 4 isolated 2 remained isolates but 2 attained the 'neglectee' category. Of the 8 neglectees, 3 remained 'neglectee', 1 attained 'below average' category,

and 2 attained 'average' category, but 2 became isolates also. Of the 10 below average, 5 remained 'below average', 1 attained 'above average', and 1 attained 'average', but 2 became 'neglectees', and 1 even became an 'isolate'. Thus it is seen that there was 30% and 25% deterioration in 'below average' and 'neglectee' categories, respectively. The improvement in the below average, neglectee and isolate categories was 20%, 38% and 50% in the control group.

The Wilcoxon Matched Pairs Test was applied to test the Null Hypothesis that the social status of 'unaccepted pupils' remained unaffected by experiences in 'group living'. The hypothesis was rejected in the case of the experimental group (N=17, T=18.5 35 required at 5% level) but was accepted in the case of the control group (N=16, T=50, 30 value required at 5% level). It can thus be concluded that experiences in group living did affect social status, and did help to improve social relations in a classroom.

Changes in Social Status of Accepted Pupils

As the number of choices for a group is constant the receiving of more choices by some pupils decreases the sociometric score of others, which may in turn affect their social category.

From Table 1, it is noticed that in the experimental group, out of 7 'populars', 4 remained as 'populars' but 1 became 'above average' and 2 became 'average'. Out of 6 'above average' category pupils, 3 became 'average' and the other 3 became below average. Of the 3 'average' category pupils 1 even became 'neglectee'. Thus, deterioration was noticed in all the categories of accepted pupils. It was 28% in the case of 'popular', 100% in the case of 'above average' and 66% in the case of 'average' category. The 'average' category, however, recorded a gain of 33% also.

From Table 2, it is noticed that in the case of control group. Out of the 4 'populars' only 1 became 'below average' and the remaining retained their category of 'populars'; of the 4 above averages, 1 remained above average, 1 became popular, 1 became below average, and 1 became neglectee; of the six 'averages' 2 remained 'average', 1 became popular, but 3 became 'neglectee', and 1 was an isolate. Thus, deteriorations in social status was also noticed in the case of accepted category pupils in the control group. It was 20%, 50% and 50% respectively in the categories of 'populars', 'above average' and 'average'. The improvement in social status in each of the categories of 'above average' and 'average' was only 25%.

The improvement in class-tone became more and more evident as the programme advanced. The nick names were not heard, opposition and aggression had started giving way to cooperation. The wider spread of responsibility and the democratic method of solving their differences and problems was found to develop a sense of responsibility in the individuals to the group, and of the group to individuals. A start for developing a respect for reason and willingness to settle issues through an appeal to reason (rather than emotions or resorting to force) had been made.

The findings of the study are more valuable as an evidence of the utility of providing experience for 'group living' than the evaluation of the action programme. Better programmes can be planned and they can be carried out in a better way if the school authorities take interest in them.

The focus of the programme should be to afford opportunities to a student to look upon each of his peers and upon himself with a sense of worth, opportunities for recognising the good qualities of each class fellow, for understanding each, and for cooperation with each in making a contribution to the group. Such programmes should help a child in developing a constant willingness to give his peers the same treatment in his daily living that he would expect from them. Daily experiences in solving their problems and in thinking critically and creatively could help them develop respect for reason, and willingness to settle issues through an appeal to reason, rather than emotions or resorting to force. Further, if more opportunities for responsibility are planned such that every child has a chance to participate, and additional responsibilities are given to those who had little skill in taking responsibility, better results can be expected.

Programme III: The Study of Biographies and Classroom Social Relations

It has been seen that sociometry afforded a way to improve classroom social relations by putting the pupils choices into effect, in other words, by sociometric grouping. Another equally important procedure was the development of a classroom environment which provided constructive experience in social interaction through sharing of responsibility, the use of small committees etc. However, other techniques can also be developed by which teachers may be able to secure communication within groups in the regular classroom in normal academic work, such as, a discussion of behaviour characteristics related to social acceptance among class-fellows in a group guidance programme, a reading and discussion of stories which illustrate problems of human relations, role playing, study of biographies etc.

A programme was designed to determine the effect of study and discussion of biographies of some great men of India, and biographical sketches of class fellows in restructuring interpersonal relations within class.

The study was conducted on seventh class students of a Government Boys' Higher Secondary School located in a rural area of Delhi State. One section of the seventh class, having 24 pupils, was used as an experimental group and another section, having 27 pupils, as the control group. The school served a locality in which the families were in the lower socio-economic level. The parents were farmers, hawkers, holding small shops of betel, tea, vegetable, general merchandise, and the like.

As the pupils belonged to a rural area and came from families of low socio-economic status, their ways of behaving and expressing emotions were quite different from the ways of pupils who belonged to middle class urban families. They showed affection by cheerful nagging and local urban attack. They picked quarrels, and used dirty language even in small matters. If there was delay in getting the material being distributed in the class or getting a book being issued they would directly attack the other person. If it were a matter of free concession, or help for poor boys fund, or distribution of free milk they would blame the person incharge or would call him prejudiced. These pupils had met so many rebuffs that their interpretation of situations and the ways of handling them were conditioned ahead of time. They often saw rejection where it did not actually exist.

The students were categorized into five sociometric categories; Populars, Above Average, Average, Below Average, Neglectees and Isolates by administering the three criteria - three choice sociometric questionnaire and using the Bronfenbrenner's fixed frame of reference.

The Programme

The activities undertaken during the programme are outlined below:

1. A number of biographical sketches of know Indian great men (1) was placed in the classroom and each pupil was asked to read at least three sketches. The aim was to find out what kind of personality the person had, why he had the personality he seemed to have, and what traits did he possess which the pupils felt to be important to the person's success. The class was told that each member would later be asked to write his own biography as also of some other classfellow, and that this reading was in preparation for that assignment.

2. The students discussed the biographical sketches in the class and pointed out the personality traits possessed by the leaders. They also raised questions on how personality is developed, whether it can be changed and the like. The attention of the class was focussed upon what each member felt he should know about preparing an outline of a biographical sketch and about personality in order to write the sketch. It was emphasised that in the homes which cradle eminence, creativity and contentment are not always and necessarily congenial. The eminent have not necessarily experienced what is the sterotyped picture of the supportive warm relatively untroubled home and life. The confortable and contended do not ordinarily become eminent.

3. Using his written evaluations and the outline developed for writing the biographical sketch, each student wrote an auto-biographical sketch.

4. The pupils were then paired for interviews to gain information for writing their biographical sketches. The choices of pupils made on a sociometric questionnaire formed the basis of pairing. They used the outline already developed for writing biographical sketches. A biographical sketch of each student was thus obtained, making for a better understanding of the life of the personality, and the reasons for the development of the personality of the pupil paired with him.

5. Finally the class discussed biographical sketches of two leaders.

Unit on Biography

In the initial stage of the class work the investigator determined the work of the class, and the class was kept in the usual teacher-pupil class arrangement. The biographical sketches studied were not selected on any particular basis, except that they described people who had served others, who might be said to have the personality characteristics of a secure and confident individual; and the language of the sketches was simple and within the verbal comprehension of pupils of seventh grade.

When the students started discussing biographical sketches and the personality qualities most of the work of the class revolved about leads offered from the students. At this point the investigator began to assume the role of a planning leader and resource person. As the class discussed its problems and solutions to them, the investigator's major function was to point out alternatives and offer new suggestions.

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(1) Balupyogi Jiwaniah, Raj Pal & Sons, Kashmere Gate, Delhi-6, 1967.

The following outline in preparing a biography was developed.

1. Birth place and general family history

   (a) Where and when born.

   (b) Areas where lived.

   (c) Present residence.

2. Paternal and Maternal Relations

   (a) Father's name, occupation, birth place, health, education, places of employment etc.

   (b) Same information about mother

   (c) Brothers and sisters - name, age, education, marital status, number of children.

3. Health

   (a) Physical development and general health history

   (b) Other members of the family

4. Socio-economic Status

   (a) Description of home, ownership, size, outstanding features

   (b) Description of own room - shared, features, personal meaning

   (c) Home duties

5. School life

   (a) General achievement - classes repeated or skipped, attitude toward school or schools attended

   (b) Subjects - liked and disliked, other information

   (c) Activities - clubs and organisations, record, of participations, offices held.

6. Employment/Occupation

   (a) Nature

   (b) Positions held, length and emoluments

   (c) Places of employment

7. Social Interest

   (a) Social organisations (length of membership, record of participations, offices held)

   (b) Religious activities

   (c) Family social life - parties, movies, celebrations, customs

8. Leisure time activities

   (a) Hobbies

   (b) Travels

   (c) Other information

9. Miscellaneous

   Interesting life experiences or incidents which had a profound effect upon the way of living. Any other thing about the individual which gave a more complete and particularised picture of the individual.

The students then wrote their auto-biographies highlighting their good qualities, their personality problems; and the difficulties felt in working with family members at home, and with class fellows in the school. The investigator treated these evaluations as confidential.

Pairing of Students

The attempts to improve interpersonal relationships among class members began when preparations were made to carry out interviews preparatory to writing biographical sketches. This activity was actually choosen as a task which would hold possibilities for changing the pupils' perceptions of one another, and for building communications among members concerning satisfactions growing out of the class work, thus providing a basis for establishing class norms behaviour. Using choices listed by students, the investigator paired the members of class taking care to associate unaccepted pupils where the best possibilities for acceptance seemed to lie. First the isolates (unchosen) were grouped with their higher choices. No two isolates were paired. Next neglectees who received only one choice were considered. If the choice a neglectee received was reciprocated by him, he was paired with the pupil with whom he had the mutual choice regardless of the level of choice. Then an attempt was made to satisfy his first choice, or the highest level of choice it was possible to satisfy without disrupting the group that were already formed. Pairing was continued from pupils receiving the smallest number of choices to the pupils receiving the largest number of choices. In each case the attempt was made to satisfy the chooser's mutual choices first, and his highest level of unreciprocated choices next.

The leading questions developed by the students to open the interviews were of a positive nature, while they followed the outline mentioned above for writing the biographical sketch of the paired pupils.

Results

To measure the changes that were induced the sociometric questionnaire was readiministered, and overt behavioural changes were observed.

What changes occurred during the six months of the action programme can be studied from Tables 1 and 2.

Table 1: Sociometric Categories of Students (Experimental Group)

'Sociometric' 'Category'	P	AA	A	BA	N	I	Total
P	3						3
AA	1			1			2
A	1	1	1	1	1		5
BA			3	1			4
N			2	6			8
I			1	1			2
Total	5	1	7	10	1	-	24

Table 2: Sociometric Categories of Students (Control Group)

'Sociometric' 'Category'	P	AA	A	BA	N	I	Total
P	1						1
AA	1						1
A	1	5	1	3		1	11
BA			2	1	4	1	8
N	1			2	1		4
I				1		1	2
Total	4	5	3	7	5	3	27

Changes in Social Status of Unaccepted Pupils

From Table 1, it is seen that as a result of the action programme none remained unchosen (isolate). Of the 2 'isolates', 1 attained the 'average' category, and the 'below average' category. Of the 8 'neglectees' 2 became 'average' and 6 became 'below average'. Of the 4 'below average' category pupils, 3 became 'average' and 1 remained 'below average'. Thus, it is noticed that 100% improvement took place in the 'isolate' and 'neglectee' categories, and 75% improvement in the 'below average' category, and that there was no deterioration in these categories in the experimental group. Looking at the figures a little differently it is seen that 13 unaccepted students improved the social status while only 1 did not improve. The Binomial Test (one tailed probability of $X \leq 1$ for N=14 is .001 which is less than $\alpha = .01$) showed that the action programme helped to improve social relations of unaccepted children in the classroom.

From Table 2, it is observed, that during six months, of the 2 'isolates' 1 remained an isolate but the other attained the 'below average' category; of the 4 'neglectees' only 1 remained a 'neglectee', but 2 became

'below average', and 1 even became a 'popular'; of the 8 'below average' category pupils, 1 remained below average, 4 became 'neglectees' and 1 became an 'isolate', but 2 improved their status and became 'average'. Thus it is seen that there was 63% deterioration in 'below average' category but there was no deterioration in the 'neglectee' category. The improvement in the 'below average', 'neglectee' and 'isolate' categories was 25%, 75% and 50% respectively in the control group.

In the control group 6 unaccepted pupils improved their social status while 8 did not. The Binomial Test (one tailed probability $X \leq 8$ for $N=14$ is .788 which is greater than $\alpha = .01$) indicated that the probability of improving social status in the control group did not exist.

The Wilcoxon Matched Pairs Signed Ranks Test was applied to test the 'Null Hypothesis' that the social status of unaccepted pupils remained unaltered by the action programme. The hypothesis was rejected in the case of the experimental group at 1% level of significance; but was accepted for the control group. It could thus be concluded that the action programme - 'Study of Biographies' - helped to improve social relations in the classroom.

Changes in Social Status of Accepted Pupils

As the number of choices in a group is constant the receiving of more choices by some pupils decreases the sociometric scores of others, which may in turn affect their sociometric category, but it need not cause any anxiety till a student remains in an accepted category.

From Table 1, it is noticed that 3 'populars' maintained their category and remained as 'popular'. Of the 2 'above average' category pupils 1 improved his status and became 'popular' but one became 'below average'. Of the 5 'average' category pupils 1 remained 'average' but 2 improved their status, 1 became 'popular' and another became 'above average'; however, 2 deteriorated - 1 became 'below average' and another a 'neglectee'. Thus deterioration of 50% and 40% was noticed in the 'above average' and 'average' categories. The improvement in the categories of 'above average' and 'average' categories was also 50% and 40% respectively in the experimental group. Thus of the 10 accepted pupils only 3 pupils showed deterioration in their social status while 7 did not. The bionomial test (one tailed probability $X \leq 3$ for $N=10$ is .172 which is greater than $\alpha = .01$) showed that there was no probability of deterioration in the social status of accepted pupils in the experimental group due to the action programme.

From Table 2, it is noticed that in the case of the control group, there was only one 'popular' who maintained this category. The one 'above average' pupil improved his category and became 'popular'. Of the 11 'above category' pupils, 6 improved their social status but five showed deterioration, also, 3 became 'below average' and 1 'isolate'. Thus, both improvement and deterioration in social status were noticed only in the 'average category'; there was 54% improvement and 36% deterioration. Of the 13 accepted pupils only 4 pupils showed deterioration in their social status while 9 did not. The Binomial Test (one tailed probability $X \leq 4$ for $N=13$ is .133 which is greater than $\alpha = .01$) indicated that there was no probability of deterioration of social status of accepted pupils in the control group.

The Wilcoxon Matched Pairs Signed Ranks Test indicated that the social status of 'accepted' pupils remained unaffected during the six months

period in the experimental group, but it had deteriorated in the control group. It could, therefore, be concluded that the action programme had no adverse effect on the social status of 'accepted' pupils.

Observed Behavioural Changes

In order to observe the changes in the pupils' behaviour the class was asked to read, discuss, and analyse a full length biographical sketch of a popular Indian leader. There was some observable improvement in classroom behaviour of pupils in comparison with the one exhibited by them on an earlier occasion when they read and discussed biographies of leaders. Almost all class members took part in the discussion. There was a decrease both in the number of remarks and in the number of individuals to whom such remarks were directed. The pupils who made mistakes were less harshly treated.

Conclusion

It can be reasonably concluded both from an analysis of objective data and from subjective observation that the social-emotional climate of the class was improved. A better understanding of a pupil's personality, and the circumstances in which it developed, coupled with the opportunity to interact, helped in accepting him instead of neglecting or being indifferent to him. The behaviour norms of the class changed in such a way that conditions of threat were reduced, and individuals found satisfaction in participation in class-work.

An action programme such as that described here offers the teacher a technique for the understanding of the interpersonal relations of a group as they relate to the teaching process. The analysis is in terms of the structure of the relations, and affords the teacher an opportunity to see the conditions which will enhance or impede learning, and to predict the individuals or groups who will be affected by a given teaching approach. It permits the teacher to predict and to alter behaviour without having to obtain detailed and complex information about each individual.

FACT AND FANTASY ON SCHOOL LEAVERS IN UGANDA: UGANDA YOUTH SURVEY

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Summary

Reference: Vol.3 (1970-71) M3 (p.152-154)

The report discusses the findings of a Uganda Youth Survey which was conducted over a period of two years in three rural areas near Arua, Mbale and Kampala and which made a study of the emigrant youths in the town, and the primary school leavers in Labwor of Omwony - Ojwok.

The report makes a number of points concerning what school leavers are and are not, and considers some of the approaches that have been used or are being recommended to solve the problem of the unemployed school leavers.

It recommends a youth service which is labour intensive and generates its own leadership, and the encouragement of informal avenues that already exist through which people acquire skills rather than the creation of expensive formal institutions.

Report

School leavers constitute a social category

This is myth number one. School leavers do not constitute a social category. Primary school leavers do not conceive of themselves as a unit, and so far few secondary school leavers act in this way. The category "school leaver" is an artificial category created by educators, social scientists, and laymen, and perpetuated by politicians. People generalize from a few cases they know to total populations and fail to realize that if school leavers were behaving as a group there wouldn't be only 134 boys to interview at markets in Kampala (of whom 33% had no education) or two boys begging at Christo's, or none to watch your car in the parks.

Youths who have been through primary school do not perceive of themselves as belonging to each other - instead they belong to other positions they occupy in a variety of institutions and role networks that are more significant for them and provide some stability in their lives: positions in families as son, nephew or grandson; in clubs and societies; in occupational positions, and in numerous untraced occupational roles that involve self-employment.

Education causes unemployment

It is alleged that what is taught in the school is irrelevant to local (rural) needs and development, and school instills false (unrealistic) attitudes and aspirations in their products. If anything, schooling creates employment because it is a major employer, and this through the multiplier effect spreads through the whole economy. But outside becoming teachers and other staff, schools can not be expected to create jobs for their leavers. Remembering that only approximately 30% of the age group is in primary school (though with wide area variations say between Kigezi and Karamoja) what then happens to the rest of the age group that receives little or no education? Though little "hard research" has been done in this area, it is not difficult to realize that the uneducated might also be among the job seekers (think of all the Rwandans that for sixty years have been coming to Uganda) and that education is not the only thing that causes people to seek wage jobs - there are many other factors that push people out both into other rural areas (and most migration in Uganda is rural-rural) and into cities.[2] Farrant's finding that one-third of the market boys were uneducated confirms that lack of an education does not serve either to keep Daudi on the farm.[3]

That all school leavers' aspirations are unrealistic is also a commonly held myth. A variety of studies in different countries have shown that school leavers at all levels have surprisingly realistic aspirations given the contingencies of the job market and the limited information available to them.[4]

In the past some of the aspiration studies failed to distinguish that individuals have a hierarchy of hopes and wants and expectations, and one might "hope" to be a "doctor" but "expect" to be a "driver" and know that he can always be a mixed farmer (both food and cash crops).

Educated youth will not work with their hands

This too is a myth. To realize how false this commonly held view is all one has to do is become aware of how hard youth can work in agriculture, trading, building, cottage industries, etc. This fallacy has its origins in observations of youth who are seen as "sitting", school leavers who are waiting for employment and supposedly do nothing in the process. In our own research we were able to identify very few youths who were genuinely "sitting" - the girls are quickly married off and then must work hard, and most young men are involved in a variety of fields of self-employment, activities often related to increasing rural productivity, and though they might tell an outsider they are "unemployed", they in fact are extremely busy and may be earning a considerable amount of money (from lejaleja work to pancake making, pork roasting, selling sugar cane, fishmongering, working on building houses, latrines, stores, assisting in dukas, etc.). No, inspite of this prevalent myth, youths are extremely involved and making their personal contribution to development. And even those few who really are sitting, after a matter of a year or two, and maybe moving through a variety of casual jobs, they find their niche too and "settle down". There is a marked difference between wanting a well paid salaried job and security, waiting for it, and eventually accepting something else.

Youths are flocking to the towns and cities

This also is fallacious. In 1969 the census found 9.5 million people in Uganda, with only 600,000, or 7%, in the enlarged (over 1959) towns and

Kampala (eighteen urban areas). The real rate of urban growth has been approximately 10% a year, a third of which is accounted for by fertility and two-thirds by migration. If all the school leavers (not counting unschooled and little schooled youths) were to flock to the towns, the rate of growth would be two to three times what is actually is. On the contrary, the impressive fact about Uganda is how few school leavers, youths, children and adults are moving to the towns. The rural areas are holding people far better than they are ever given credit for. [5]

Education is perceived as an investment

This may have been true for awhile before and after independence, but it certainly is less true today. It would be better to say that an expenditure on school fees is seen more in the light of buying a lottery ticket: if one wins one's salary is ten to thirty times what it will be if one loses. But as the payoff from a given level of education (the chance of winning, or the stakes or odds) changes so that fewer win (in 1963 one out of three who finished the eight year primary cycle were successful, today only one out of ten obtain further education), it becomes increasingly likely that parents, relatives and guardians - fee paying people - will think more than twice about their "investment". In Nigeria, schools that parents perceived as not giving a payoff have died out and the number of males finishing their primary education has levelled off or declined. This suggests that a time will come when schools like Kenya's Harambee Schools, or Uganda's more than 300 private secondary schools, will experience a decline in enrolments, as to finish such a course ceases to enhance one's position in society. Already there are suggestions that people are making the choice of investing in land, livestock and farming for their youth instead of paying 4000/- for four years of private schooling which may lead nowhere. [6]

If people are beginning to evaluate education for its other objectives, and not merely as an "investment" or "lottery", this suggests that formal schooling is more relevant to local needs than is usually thought possible. Parents won't continue to support primary schools and pay the fees if they ascribe only to the "investment" or "lottery" thesis - so obviously primary schooling is integrated into rural areas and is accepted as an end in itself (though with variations on this theme from village to village).

Daudi can be kept on the farm through changing the content of what is taught in the primary schools

It has been advocated that agricultural, home economics, vocational, commercial, technical and other practical courses be taught in the schools. This is what has become known as the "vocational school fallacy" and is a highly prevalent myth in Uganda. [7] Schools are agents of socialization, social mobility and role allocation, and they will serve this purpose no matter what is taught. Merely to change the syllabus will not automatically result in the other goal of keeping people in the rural areas being achieved, as the reasons why people emigrate, as has been shown already, are not only related to formal schooling. [8]

The problem of the unemployed school leaver can be solved by introducing agricultural education in the schools (and when the "problem of the secondary school leaver" becomes more visible through agriculture there too). This perennial myth is an extension of the above point on adaptation of the curriculum to fit rural needs. As a recommendation people have been making it in English speaking Africa since 1847 and earlier. And it has always

failed to be implemented in the long run (though there have been short-run successes of a limited nature like the "middle schools" in Tanzania in the 1950's). During the colonial period the peoples of Africa resisted agricultural education because they perceived it as an attempt by the colonial powers to pass off on them an inferior form of education.

Any form of "adapted" education, be it agricultural, vocational, technical, commercial, domestic science or animal husbandry requires inputs in staff, equipment, buildings, and other facilities that no African nation is yet in a position to make at the secondary level, nor at the primary, with the exception of pilot projects at a few institutions. [9]

Agricultural education in farm schools has also been prone to failure, mainly due to a number of factors: poor organization and direction of the schools, the absence of recognized examinations which permit upward mobility, limited opportunities for modern cash crop farming and animal husbandry for the graduates, lack of follow up support and supervision with advice, capital, rural credit, etc. The very few agricultural institutions that are well staffed and equipped and are able to meet these above conditions have tended to be successful, but while this can be done in the case of a few schools it can not be institutionalized and accomplished across the board in all schools. 10

Education is a revolutionary force that can be used to bring about major changes in society

This commonly held view is perpetuated by such catchy titles as "Tanzania: Revolution by Education." 11 The simple point here is that formal education and teachers are usually slow to change and in most societies constitute a conservative force (one function of education is to socialize youth to the society and to perpetuate the norms, values, and attitudes of that society) and where education has been a force for change it has been part and parcel of a wider social revolution (as in China or Cuba), but where attemps at revolutionary changes in education have been made and there has not been a wider social revolution, they have failed (as with Gandhi's Basic Education in India). The success or failure of Nyerere's efforts to build a terminal system (instead of a continuing one which focuses on preparing for senior entrance) will depend largely on how successful Tanzania's other innovations are (the Arusha Declaration, Socialism and Rural Development, etc.). The places where self reliance in education has been successful so far has been in successful Ujamaa villages.

Though formal education contributes to social change (and studies suggest even increased rural productivity can be related to literacy and schooling), schooling cannot be used as a means of social change when the changes desired are contrary to the aspirations of pupils and parents (such as keeping Daudi on the farm with only a jembe in his hands). Education as an instrument of social policy cannot be relied on to produce results when the social problems to be tackled are not caused by education. Education cannot easily be used as a means of altering aspirations, as what an individual aspires to be is only partially determined by his schooling; a multiplicity of external factors contribute to the formation of an aspiration.

A National Youth Service can solve the problem of the unemployed school leavers

This again is a fallacious argument. The problem with any further training (which NYS is meant to include as an objective) is that it merely

delays the point at which one begins to seek work - and no matter what the training may be in, if there hasn't been an improvement in the number of wage jobs available, these youths may still be unemployed a few years later. A secondary objective of a NYS is that the participants will learn skills and abilities that will enable them to be absorbed more effectively into the rural areas (as farmers, carpenters, drivers, builders, traders, etc.), but in the absence of any proper evaluations of youth services in those African nations that have had them, we are not in a position to assess this objective. What we know from reports of youth services in Ghana, Nigeria, Kenya, Tanzania, Zambia and Malawi is that they have ended up costing more per participant than existing formal secondary schooling. In countries where the numbers of primary school leavers have been over 100,000 a year the NYS's have never taken more than 5,000 a year into their ranks, and in most places only a thousand or more, so that the creation of a NYS has never been (and could not be) a blanket, across the board, solution to the problem of the unemployed school leaver (and not really a "solution" at all, but merely a "delaying tactic".).

That there should be a dual system of secondary schooling; rural schools that are adapted to local requirements and an urban system.

This is the major recommendation that Lewis Brownstein has to make following four years of studying primary school leavers in Kenya. It also would have been a consequence of the Castle Commission Report if the major recommendation calling for the creation of "high schools" had been accepted. What both reports fail to recognize is that Uganda and Kenya already have a dual system, if one merely compares the private or unaided Harambee Schools to the aided secondary schools. While both systems (private and aided) may follow the same syllabus, functionally they serve very different purposes because their graduates follow different life paths (few if any of the private or Harambee leavers making it into 5th Form and University). It is this structural divergence that will be considered when we make our recommendations.

But if there are to be successful "rural" secondary schools all the additional inputs in staff, buildings, and equipment would have to be made which cannot be made. Private schools are excessively bookish and academic because they cannot (for the most part) do anything else; adapted education costs more and they don't have the finances available to do it. [12]

Rural or village polytechnics will solve the problem of the unemployed school leaver

Since the start of such schools near Busia in Kenya approximately five years ago, a number of such flagrant claims for what polytechnics can do have been made, and they have been recommended to planners in Uganda as a panacea. As with National Service, any such new innovation is not introduced on a grand scale, but in small pilot projects. In 1970 in Kenya there were only fourteen village polytechnics enroling approximately 500 students. Though the VPT is a promising innovation, it is not clear yet even in Kenya if the overall investments are worth the output, especially when compared with alternative informal ways in which youth may acquire skills (carpentry, brick laying, brick making, butchery, tailoring, chicken raising, pig raising, etc.). In Uganda all the skills taught in VPT are learned in a variety of ways in the villages and towns, and it may be unnecessary and a waste of resources to create a new type of educational institution if its objectives are already being accomplished informally by the society.

Youth centres and youth programmes (like those of NUYO and Y's) will solve the problem of the unemployed school leavers.

So far in Uganda and Kenya "youth centres" have not made any real dent. There exists a tendency for them to be transformed into pseudo-schools, and they also have severe problems of financing and staffing.

Massive land settlement as a solution to the problem. The settlement of youth on new land or unused land near dense areas has not been made part of the approach to dealing with unemployed school leavers on any scale in East Africa. Though both Kenya, and to a lesser degree Tanzania, have had massive land settlement programmes over the past decade, they have not been primarily designed for youth. Uganda, though, has had a number of small scale youth agricultural settlement projects organized by the Church of Uganda. These youth land settlement schemes have been carried out on an extremely small scale, and have received a considerable input of enthusiasm and supervision. But it is apparent that these highly unique projects are not easily reproducible, and there is no indication that they have sparked off a chain of similar ventures.

A dramatic large scale programme of Rural Public Works will employ unemployed school leavers.

During the Great Depression in the U.S.A a variety of programmes from WPA to CCC (road works and conservation corps) absorbed youths and others, but tropical Africa has yet to develop its version of such a crash programme. Yet this is the major recommendation that came out of the Kericho Conference in 1966 in Kenya. Though economically sound, a RPWP has not been implemented because of political, social and economic constraints. Yet the grandiose thinking that underlies this recommendation remains with us today - that to solve a major social problem one gigantic effort is necessary. The authors of Rural Development in Kenya, for example, point out that a crash programme of building teachers houses would be required if all the youths trained in the building trades in village polytechnics are to be employed.

Conclusions

We have examined briefly fourteen different misconceptions about the problem of unemployed school leavers and/or what might be done to solve this problem. Our first point was that by definition it was not a problem, as school leavers in Uganda do not yet constitute a definite social category. We then went on to review various approaches and list some of their shortcomings - but the major point we were reiterating throughout is that:

There is no one solution

There is no aggregate approach

Therefore it is fallacious to assume that one tactic will deal adequately with the problem (which really is only a reflection of all the problems of rural and urban development in Uganda). 13 And if one cannot put all one's eggs in one basket, what then is one to do?

First, it is necessary to realize that the solutions are not to be found in the schools, but in all the varied efforts that help to expand

employment opportunities across the board - and this would include the variety of programmes that will help youths to become better (or "modern") farmers (something many more than we give credit for actually aspire to be).[14] Agricultural education, farm schools, District Farm Institutes, Young Farmers of Uganda, youth centres, NUYO, Y programmes, church programmes, polytechnics, all might in their own way contribute to the total process of development. What we are after then is a multiplicity of effort, which together might have an accumulative effect on the process of change. Though we now recognize that a youth service is no automatic solution, this does not mean we should not have any youth service at all - on the contrary, a small (and they all are) youth service which is labour intensive and generates its own leadership and administrative capacity (instead of the highly capital intensive style of elsewhere with their many foreign experts) should be experimented with.

Though we now realize that agricultural education will not on its own keep Daudi in the kibanja, this does not mean that there should not be any agricultural education. On the contrary, agricultural science in the secondary schools (on top of rural science in the primary) might be made to have a number one priority, to the point that a credit in agricultural science be required at the "O" level before one could go to Fifth form (as a credit in English is today). The result of such an institutional change would be that all pupils in all secondary schools would attempt to master agricultural science in the ways they do English now (and one might pass educational legislation that in secondary schools if they can teach only one science the first to be taught must be agricultural science and this would include both urban and rural schools.[15] While many of the best pupils might never use their agricultural science knowledge again, such an approach might have a residual effect in that the terminal pupils, those leaving to seek employment, and those that eventually settle down and become farmers, would make use of such learning.

Ways should also be found to encourage and intensify the various informal avenues that exist through which people acquire skills, as it is cheaper for society to utilize these than to create formal institutional edifices that divert precious resources. But this is a topic for another paper.

Having come this far the reader now wonders, "But where is the blessing?" The blessing lies in the simple conviction that some education is better than none; that an educated populace will make for a healthier nation and more rapid development. That this is so is supported by a variety of evidence. Thus to have school leavers is a blessing, not a blight.

Notes:

1. Efforts at forming a Uganda School Leavers Association since July 1970 have met with limited success. The USLA has no members who are primary school leavers, and out of 300 members 200 are still in secondary schools. From a personal communication from the founding-director, October 1971.

2. There are many studies on migration in Uganda. See T.K. Hopkins, A Study Guide for Uganda, African Studies Centre, Boston, Boston University, 1969, for references.

3. Farrant, op.cit., p. 18. Fifty-seven percent of this sample are migrants to Kampala (or their parents), but it is not known how many of those were never schooled.

4. For a very recent comprehensive survey of the whole field of "aspiration studies" in Africa, see: J. M. Wober, "Aspirations: African's Ideas about Education and Work: a Review", Makerere University, Kampala, Department of Sociology, Occasional paper No. 3, October 1971, mimeo, 24 pp.

5. Why the rural areas are able to do this is a separate issue, but we would suggest that youths and others when assessing the opportunities open to them are very shrewd and calculating and have many ideas about the comparative advantages of living in the village or in a town or Kampala, and that, contrary to widely held opinion, the rural areas are perceived as offering more than the town/city. Hoad in Tanga found that school leavers were actually more active in the village than in the town, with the major exception being the ability to go to libraries in the town. Most of the glamour, magnetic attractions of town they never partook of as they did not have the resources. See: Peter Hoad, "A Study of Primary School Leavers looking for Work in Tanga", Unpublished master's dissertation, Kampala, Makerere University, 1969. In the rural areas they were more active in sports. We have had similar findings in the UYS, and a study of day students living in Kampala in 1962-1963 found that very few of them actually enjoyed the attractions of the city. In the absence of such compensations the difficulties in coping with town life can cause people to turn away from it in favour of village life (high costs of housing, food, transportation, noise, thieves, etc. are all associated with towns and their opposites with villages). This process has been described by Josef Gugler and others. See: J. Gugler (ed.), Urban Growth in Subsaharan Africa, Kampala, Misr. Nkanga editions, No. 6, 1970. See especially Caroline Hutton's article, "Rates of Labour Migration" (which also contains an excellent bibliography).

6. This is particularly true in Bugisu where private secondary schools have not received the same support that they have in other parts of Uganda (and those few private schools in and around Mbale have very few Bamasaba in them).

7. Philip Foster, "The Vocational School Fallacy", in J. W. Hanson and C. S. Brembeck, Education and the Development of Nations, New York, H. R. Winston, 1966, pp. 167-76. At a meeting at Makerere University in October 1971 between the Senior Staff and President Amin, a number of people spoke calling for the introduction of agricultural education in primary schools.

8. This point was made most adroitly by the Castle Commission report in 1963. "The problems of agricultural education are not primarily educational; they are intimately bound up with the solution of economic, technical, and social problems..... systems of land tenure, improved land use, finance and marketing, research and development, traditions and tribal customs....." Education in Uganda, Entebbe, Government Printer, 1963, p. 34.

9. In wealthy Western Nigeria when they introduced Secondary Modern Schools in 1955, they were meant to have such "biases", but by 1960 when there were over 1000 such schools, only nine had the staff, equipment, etc. It is simply too costly. The world Bank has backed the introduction of "biases" in secondary schools, and it too may be premature as even if the buildings and equipment are paid for by loans, there are few local people qualified to teach, and the biases end up being taught by external volunteers who are also unqualified. For a fuller discussion of these issues see: S. G. Weeks, "Innovation in Education", Makerere University, Social Science Conference Sociology Papers 1968, Kampala, MISR, 1971.

10. There are also serious reservations held by educators concerning the purpose of primary and secondary education; they tend to favour a sound basic education with courses in rural science in primary schools and agricultural science in secondary schools. See: Castle, op.cit.

11. J. Resnick (ed.), Tanzania: Revolution by Education, Arusha, Longmans, 1967.

12. In Kenya only one Harambee School out of over 483 has attempted to do more than be a pseudo-secondary school. See: David Zarambeka, "The School as an Agent of Rural Development", Rural Africana, No.9, Fall 1969, pp. 38-39.

13. Not even the Uganda Army as a major employer really makes a dent. Though perhaps 7000 youths were recruited into the army in early 1971, this would be equal to only one from every three "villages" in Uganda.

14. Perhaps 60,000 young people turn to farming as their life's vocation every year. It is at this point of readiness, when youths are motivated to become farmers, that they should be reached by agricultural and related educational efforts.

15. Having only agricultural science proved to be an effective approach at the Ajuwa Grammar School in Nigeria. See S. Weeks, "Innovation in Education", op.cit.

DISCIPLINARY ATTITUDES OF UGANDAN DAY PUPILS AND BOARDERS ATTENDING THE SAME SECONDARY SCHOOL

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Summary

Reference: Vol.3 (1970-71) E8 (p.49)

The problem of discipline in secondary schools and teacher colleges has been highlighted in recent years by strikes. Investigation revealed that some schools had repeated trouble while 60% of the secondary schools and colleges had not a single strike. Nevertheless, such strikes as occurred were dramatic symptoms of a widespread disease. This study attempts to diagnose the disease as revealed in the disciplinary attitudes of "matched" groups of secondary school boarders and day students from several pilot studies. Attitude scales were devised to test

i) attitude to teachers's leadership

ii) attitude to teacher control

iii) attitude to independent work

In the final forms the tests were administered to the pupils of the complete 3rd forms of 2 secondary schools in Kampala, the ratio of boarders to day pupils being kept equal.

The results showed no consistent difference between the day pupils' and boarders' attitudes.

The refinement of the 'Scale' after validation against an external criterion, or factor analysis has yet to be undertaken.

Report

I. The Problem

The problem of discipline in secondary schools and teacher training colleges in Uganda - as in many other African countries - has been highlighted in recent years by the so-called strikes.

Head teachers and college principals consulted by the Ugandan Ministry of Education's School Discipline Committee, which produced its report in December, 1967, saw the term strike as a definite misnomer - given that strikers' tactics included anything from mild dissent such as reluctance to sing in chapel or turn out for games, to outright riot and violence such as stoning a head's office, fire-raising, attacking a principal's

home, damaging staff cars, or mass insult and defiance of a District Education Officer, school governors and police officers. All this is apart from what could more reasonably be termed strike tactics, namely boycotting of classes or meals.

In secondary schools and teacher training colleges there were twenty-two serious disturbances between 1955 and 1969, and as many as nine in 1965 alone. There were several more during the period of the writer's research in Uganda between 1969 and 1971. At no time during the period from 1955 onwards was the number of secondary schools and teacher training colleges greater than one hundred.

The importance of the strike in the context of school discipline as a whole has to be kept in the proper perspective. On the one hand, while some schools had repeated trouble, slightly more than 60% of schools and colleges had never experienced a strike. On the other hand, the Report (1967) showed concern that co-operative relationships between students and heads, principals and staff were often seriously impaired, producing bad disciplinary atmosphere without outright defiance. Strikes were merely the most dramatic symptom of a widespread malaise.

The report was able to produce the following profile: strikers were predominantly boy boarders in post-primary schools or colleges which select students of well above average ability and in which the students are articulate and vocal; strikes were almost unknown with girls. An obvious caveat is attached to use of the term 'boy' in East African schools: in 1969, 42% of Ugandan Form I boys were 16 or over and 21% of boys in Forms III and IV, 20 or over.

The single-sex boarding institution predominates in Ugandan post-Primary education, only 11% of schools and colleges taking day pupils, and a further 10% taking both day pupils and boarders. The day schools' significance is increased however by their individual rolls being far larger: several day schools in the capital city of Kampala are forced to employ morning and afternoon shift systems.

The boarding tradition was begun at the turn of the century by the Anglican and Roman Catholic missions, with the aim of the adaptation of our English public school method to the African race. Responsibility for Secondary schooling in Uganda has passed from the voluntary agencies to the government of the Republic, but the legacy of elitism is still strong in the boarding schools. Most are highly selective, creaming off the best material according to the criterion of the Primary Leaving Examination. Most schools which take boarders and day pupils award boarding places to the ablest. Most day schools in Uganda were originally established for urban pupils and children of Uganda's Asian community still receive their education in these schools. African pupils now attending day schools tend to be those who have failed to gain places at boarding schools, and day schools have lower prestige in the eyes of African parents and public.

Causes of strikes and indiscipline, as suggested by the ministry's Report (1967),by an analysis of head teachers' and principals' views and by drawing on pupils' and students own opinions can be categorized into nine groups.

(i) Causes related to the teachers, including high percentage of inexperienced staff, poor professional standards in Primary schools, high percentage of expatriate staff unfamiliar with the African situation, and misunderstandings and suspicion caused by the linguistic and cultural gap between expatriate teachers and African pupils.

(ii) Causes associated with school administration, that is,lack of continuity of head teachers, shortage of experienced African teachers to assume headships, and tendencies especially in boarding situations to impose a multiplicity of negative rules on older pupils.

(iii) Causes emerging from the educational system in general, especially from its excessive orientation towards examination requirements - which has produced in pupils a twisted idea of what school is for, preference of spoon-feeding and rote-learning methods, with the attendant over-dependence on teachers, widespread lack of real interest in school subjects, and extremes of anxiety over examinations, given the make-or-break significance of school certificates.

(iv) Causes emerging from economic pressures, including the preoccupation with examination success as an economic passport, but also involving the strain on pupils of only moderate ability, whose parents and families have sacrificed to provide school fees.

(v) Causes related to political influences, in that African nationalism has compromised previous unquestioning acceptance of European teachers' authority - even though no evidence exists of widespread resentment of European teachers as such, a few strikes during the 1960's have been traceable to youth winger agitation with an anti-European bias.

(vi) Causes related to inadequate educational facilities in some schools- namely insufficient, overcrowded classrooms, deficiences in laboratories, workships and libraries, and shortage of books and materials.

(vii)Causes related to boarding schools' living facilities- namely poor food, overcrowding and lack of recreational facilities in some schools, with the strains of an institutionalized life applying for all boarding establishments, however well-appointed.

(viii) Causes related to the African home background- especially to the tendency for boys to be accorded men's freedoms at home in mid-teens making it difficult for them to accept boarding schools' restrictions, and also to the sheer cultural gap between the requirements of the uneducated African home and those of the Westernized school environment staffed mainly by foreigners.

(ix) Causes emerging from the near-universal problem whereby extension of young people's education has put them into an ambiguous position where restriction of freedom is coupled with lack of real adult responsibilities - producing frustration, resentment and nihilism among many young adults.

All these sets of causes - except the seventh - applied for day pupils as well as boarders. But day pupils in Uganda have their own problems. The circumstances under which day pupils lived and worked in Kampala ranged between the inconvenient and the downright squalid. Even living happily at home with his parents, the day pupil typically had to attempt homework in the noisy, usually crowded, dimly-lit room which the whole family shared. Many

day pupils are put up by relatives, paying their keep by chores around the house. With inconsiderate relatives, this can necessiate very early rising, and further work after school, leaving the pupil tired by the time homework can be begun. Many have to walk several miles per day to and from school, and may have only one proper meal per day. Worst-off of all are day pupils who live independently, say in Kampala, and can only rent squalid sleeping space, surrounded by the worst manifestations of African slum dwelling. Serious organized indiscipline among day pupils has been very rare however.

However austere and poorly-equipped his school may be, the boarder gets three meals a day, clean sleeping accommodation and a well-lit, quiet room in which to study in the evenings; at least some organized recreations and entertainments are available, and the boarder has very little work to do apart from his studies. Perhaps this has been part of the trouble - the insulated, introverted boarding community with time on its hands to magnify minor irritations and petty grievances, and allow anxiety over academic success to reach an unrealistic or even neurotic level.

The Ministry's Report and other surveys made it clear that serious indiscipline was associated almost exclusively with boarding schools, particularly since outbreaks typically involved disturbances in the evening, outside the school day proper.

II Preliminary Hypothesis

The real enigma emerged from inspection of any list of Ugandan Secondary schools where serious indiscipline had occurred. Here it became obvious that strikes had been occurring, and recurring, in boarding schools where, at the time of the trouble, all the facilities were adequate, the heads experienced, the staff well qualified, the school regimes far from oppressive, and where efforts were made to deinsulate the boarders by encouraging activities outside in the community, such as Red Cross work, voluntary work camps, community development projects and scouts and guides, in addition to the usual sports and recreations.

A tentative hypothesis was formed and became the basis for the planning of the research investigation eventually conducted from 1970-71. It was hypothesised that the boarding situation in itself, as opposed to day school attendance, had a distinctive effect on Ugandan pupils' disciplinary attitudes, quite independently of school facilities, school administration and the professional and personal qualities of teachers.

To attempt to control all the variables apart from boarding as opposed to day school attendance, measurement was aimed at comparing disciplinary attitudes of day pupils and boarders of the same age and ability ranges, not only attending the same schools, but also sharing classrooms and the same sets of teachers. That is, the subjects were to be pupils from the relatively small number of schools in Uganda with both day pupils and boarders on their rolls. It was hypothesised that the day pupils would display more favourable disciplinary attitudes than boarders in terms of attitude scale scores.

III Attitude Measurement

In the modern Secondary school context, pupils' ability to work independently and achieve self-discipline, and the teachers' ability to promote this through his actual subject teaching methods are largely inseparable from

the sheer control aspect of discipline. Four attitudes among the Ugandan pupils were to be assessed:

(i) Attitude to teachers' leadership in the learning process - whereby favourable responses denoted preference for being required to think and work independently, involving discussions and assisting the teacher in planning and decision-making, and unfavourable responses denoted preference of spoon-feeding and leaving all decision-making to the teacher.

(ii) Attitude to teacher control - whereby favourable responses denoted responsible, well-balanced views of school rules and sanctions currently in effect, and unfavourable denoted a hostile, resentful and ill-balanced reaction.

(iii) Attitude to independent work - in projected situations where difficulties obstructed work, where opportunity arose to be lazy or take an easy way out, and where the teacher was inadequate. Original measures were constructed for the above.

(iv) Attitude to school - a more general assessment, by an existing Thurstone-type scale, that was devised for Primary and Secondary pupils in New Zealand by Fitt (1956), in which the scale statements cover whether school is worthwhile, whether time at school is happy, whether school work is hard, and whether time out of school is better.

Measurement by attitude scale was considered particularly useful for this research, because of the advantages of quick, easy, unambiguous registering of responses, and objectivity of scoring. Scale statement technique (Thurstone 1960 pp. 216-232; Vernon 1953 pp. 144-154; Likert, Roslow and Murphy 1934) was used to measure (i) attitude to teachers' leadership in the learning process and (ii) attitude to teacher control.

Presentation of the statements for (i) was modelled on the technique of Forrester (1951), who set out her scale in a quasi-dramatic form, with the statements grouped together in sets of five and given the format of speeches in a discussion among teenagers of the subjects' own age.

The approach for (iii) attitude to independent work was based on the technique of Bronfenbrenner (1966) in experimental studies of the socialization of American and Soviet children of late Primary school stage. Bronfenbrenner confronted the children with imaginary dilemma situations where they had to choose between endorsing adult-approved and adult-disapproved behaviour and then register on a six-point scale how sure they were of the course of action they would take.

Subjective assessment of the content validity of the sets of statements of items was implied in the criticisms and recommendations of a panel of eight Makerere University College education tutors who were asked to consider how effectively the batches of items represented the first three attitude topics.

A crucial problem was ensuring the suitability of the language of the whole forms - rubric, instructions and examples as well as the items proper. The subjects were exclusively African middle school pupils, taught through the medium of English, but for whom English was a second language. A considerable range of ability in English was to be expected.

In the administration of intelligence tests to African children, printed instructions have proved far less effective than demonstration of

required responses, and ideally are kept to a minimum, expressed in language empirically found to communicate effectively with the subjects. Printed instructions were minimized in this study and the whole groups of subjects were taken through demonstrated examples.

A three-stage procedure was used to eliminate the linguistically unsuitable from the forms:

(i) objective assessment against the vocabulary criteria of West's (1963) General Service List of English Words (G.S.L.), and sentence structure criteria in the New Oxford English Course book for Primary leaving stage (See Wingard and Bright 1963, revised Harrison 1969)

(ii) subjective assessment by the panel of eight education staff, including African tutors and specialists in teaching English as a second language

(iii) indication of linguistic difficulties by the pupils themselves at the pilot study stage.

IV Research in the Schools

According to the headmasters' opinions as analysed by El-Abd Secondary Form III pupils were the most frequent source of serious disciplinary trouble, so the final study involved a total of 266 boarders and day pupils in Form III. As a further precaution to ensure their usability, the pilot study provisional forms were administered to 112 unstreamed boarders and day pupils from one of the schools whose Form III was to provide subjects for the study proper.

Two class units of 38 and one of 36 were used. Each provisional form was administered by the writer, and assigned to a separate forty minute period, allowing more than enough time for demonstration and ensuring that pupils indicated any parts which they could not understand. They were also questioned orally concerning such difficulties and sources of difficulty noted. Pupils were assured of anonymity through numbers alone being used to identify each individual's separate forms.

Three very obvious sources of linguistic difficulty emerged and were eliminated from the final forms. No difficulty was indicated with the Fitt scale, and it showed an uncorrected reliability in the pilot study at 0.76, by the same split-half reliability check as used by Fitt, namely arriving at two half-tests by pairing statements of similar scale value.

Scores on each of the provisional forms were reasonably well spread, suggesting that elimination of poorly discriminating statements and items in the first three would produce attitude measurement forms suitable for use in the research paper.

The form for (i) attitude to teachers' leadership in the learning process was reduced from 50 to 25 statements; that for (ii) attitude to teacher control from 64 to 30; and that for (iii) attitude to independent work from 15 items to 9.

The final forms were administered to a total of 266 pupils, the complete third forms of two Secondary schools in Kampala. Both schools

provided third form classes in which the ratio of boarders to day pupils was almost equal; in neither school were boarders selected on the basis of academic ability, and all seven classes involved were unstreamed. 53 day pupils and 55 boarders were used in a six-year Secondary school,and 86 day pupils and 72 boarders in a four-year Secondary. In neither school was there a significant difference between the mean ages of third form day pupils and boarders: 16.73 and 16.72 respectively in the six-year school and 16.48 and 16.58 in the four-year school. Both schools had expatriate headmasters and a majority of expatriate staff. Both schools had some experience of strike trouble, the six-year school having had a very serious and violent outbreak in 1965.

The hypothesis was that day pupils would display more favourable disciplinary attitudes than boarders in the same school environment, in terms of their scores on the final forms, because of day pupils' greater opportunity to assert and use independence, greater freedom from the strains of institutional life, and their avoidance of possible friction with school authority after class hours.

Results provided virtually no support for the hypothesis.

There was no significant difference between the means of the six-year school day pupils and boarders on any of the forms - except that there was an almost significant difference in favour of the day pupils on attitude to teacher control. The four-year school day pupils produced a significantly more favourable score than their boarder classmates only for attitude to school. In the latter case, 8.3% of the boarders endorsed the least favourable statement on Fitt's scale (value 10.5) while none of the day pupils endorsed it. This statement is "I hate school more than anything else". Also, 13.8% of the boarders endorsed the high value (unfavourable) statements: "I think life would be better if all the schools were closed" (9.6), and "School is a waste of time" (9.2). Again no day pupils endorsed these statements. It might have been the case that for some of the boarders in that school attitude to school was adversely affected by supervision after school hours and just not getting completely away from school atmosphere after classes.

Reliability estimates were gained for each form by alternate item split-half technique (Thorndike 1951 pp.579-586) for the first three forms, and by pairing statements of the similar scale value in Fitt's scale. The estimates were based on the scripts of 120 subjects. Form 2, for attitude to teacher control, gained an uncorrected estimate of 0.84, while Fitt's scale this time gained an uncorrected reliability of 0.71. The forms for attitude to teachers' leadership in the learning process, and attitude to independent work were far less satisfactory - with estimates of 0.58 and 0.49 respectively.

V Conclusions

Lack of consistent differences between the day pupils' and boarders' attitudes in terms of their scores was encouraging from the point of view of concern over the effects of day pupils' living conditions and widespread lack of adequate study facilities in the evenings: their attitudes did not seem to have been adversely affected. Also, institutional routine, regularized meals and sleep, extra amenities and evening study facilities did not seem to have given boarders in these schools any distinct advantage in terms of disciplinary attitudes.

Form 2 emerged as a reasonably successfully constructed scale which might be applicable in further research in East Africa - after validation against an external criterion, or factor analysis, which have yet to be undertaken. It seemed to have sampled content better than any of the others. Fitt's scale was as reliable as when applied in New Zealand, Form 1, at 25 statements, was probably too brief, especially in the quasi-dramatic format, and Form 3 probably too susceptible to guarded, conservative or even faked responses.

From experience here it would seem necessary to take considerable care over ensuring the suitability of the language of scales or standardized questionnaires for East African school pupils. Systematic checking, involving African teachers or college and university staff, and specialists in English as a second language seems desirable, although linguistic suitability can only ultimately be stablished empirically.

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STUDIES OF TANZANIAN STUDENTS

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Summary

Reference: Vol.1 (1968) E3 (p13)

The purpose of the studies was to secure information concerning the abilities and interests of Tanzanian students at primary, secondary and university levels. The published reports of these studies have concentrated on the occupational interests of secondary school students, the levels of ability and what things they planned to teach their children.

Both Asian and African boys and girls were the subjects of these studies.

The studies showed a remarkable similarity in level of ability and patterns of response within Asian sub-communities and African tribal groups; but a better performance of Asian students generally on the ability tests. This reflected the environmental advantages held by Asian students generally. There was close agreement of African and Asian secondary school students on social and political values and issues, including attitudes towards child training, or the uses to which a 'windfall' would be put. At some points these attitudes and values conflicted with governmental procedures.

The author cautions that the results of these studies (1966-67) may by now be out of date, particularly those based on the questionnaire survey meterial.

Report

Introduction

The work reported on herein was initiated in 1966 in Tanzania, and most of the data for it were gathered in 1966 and 1967. Some reports of the research have appeared in the professional journals and are cited at the end of this summary. In addition, a longer and more detailed mimeographed report was rendered to the Ministry of Education of the United Republic of Tanzania in 1967 and may be available from that source (Klingelhofer, 1967c). Some information bearing on the cognitive development of primary school children (Standards II-IV) has been tabulated and analysed although it has not appeared anywhere in published form. Summaries may be secured from the author. In summarising this work, grateful acknowledgement is given to the Faculty Research Fund of the University College, Dar-es-Salaam which made it all possible.

The field research covered the groups, incorporated the measures and utilised the linguistic medium indicated in the following chart:

Subjects	N	Instruments	Linguistic Medium
First year education students at the University of East Africa, Dar-es-Salaam	129	1) Raven's Standard Progressive Matrices	English
		2) Modified version of Gillespie and Allport's Questionnaire Youth's Outlook on the Future	English
Secondary school students (Forms 1-4) throughout Tanzania	3,692	1) Raven's Standard Progressive Matrices	English
		2) Modified version of Gillespie and Allport's Questionnaire Youth's Outlook on the Future	English
Upper primary school students (Standard VII) throughout Tanzania	937	1) Raven's Standard Progressive Matrices	Swahili
		2) Modified version of Gillespie and Allport's Youth's Outlook on the Future	Swahili
Lower primary school students (Standards II-IV) throughout Tanzania	666	1) Modified Harris' version of Draw-a-Man Test	Swahili
		2) Modified Bender visual motor Gestalt	Swahili

In addition, in a totally separate project an attempt was made to compile a list of all of the psychological research and writing dealing with sub-Saharan Africa. A first edition of this effort was published by the Scandanavian African Institute (Klingelhofer, 1967d) and has since been merged into a usefully complete bibliography under the senior authorship of Professor Sidney Irvine (Irvine, 1971). Copies of this document which, as noted, is a comprehensive listing of psychological and psychologically related work may be obtained from the publisher.

Summary of Results

The main objective of the field research was to get a better idea of the abilities and interests of Tanzanian students at the primary, secondary and university levels and to make the information available to those who would be able to use the data advantageously in the educational process. Not much was known about the pupils and the investigations we initiated intended to fill that void by providing descriptive statements. While some cross comparisons did result, they were incidental to the major purpose which was, quite simply, to secure information which was unavailable and necessary if the educational process were to be somewhat more aware of and responsive to the children and young men and women in the schools.

The published reports have concentrated on the occupational interests of secondary school students, the levels of ability as defined by Raven's Standard Progressive Matrices, and what things they plan to teach their children. In addition, a brief methodological paper evaluated the extent to which the language (Swahili or English) in which Raven's Standard Progressive Matrices was administered influenced the performance of Standard VII pupils.

The procedures and results of these investigations are, in brief, as follows:

1. Secondary school students were asked to rank, in order of preference or desirability, a number of occupations. Boys responded to a list of 20 and girls to one containing the names of 13 occupations. The results indicated that there is a fairly even level of interest on the parts of boys and girls in the various occuaptions ranked over the first three forms of secondary school. Asian and African boys show closely similar patterns of preference and girls drawn from those two groups also agree in their preferences. The data indicate that at that time the national needs and plans and the individual preferences of secondary school students were badly mismatched. The students were overwhelmingly oriented toward high prestige professional occupations while the country required clerks, skilled manual workers, teachers and nurses. These data suggested some nodifications in national manpower planning and in the kinds of informational services available to secondary school students that would help to bridge this gulf (Klingelhofer, 1967a).

2. Secondary school students also completed Raven's Standard Progressive Matrices Test. Differences in mean level of performance were found to be associated with ethnic group (Asian or African), age, and sex of the student but were independent of tribe (African) or community (Asian) subgroupings. These findings were taken to support the contention of other authors that test performance is a function of environmental factors (Klingelhofer, 1967b).

3. The responses of secondary school students to the question "If you become a parent, what two things will you try to teach your children?" were analysed. While the overall distribution of responses was found to be related to the sex and ethnic group membership (Asian or African) of the respondent, the subgroups did not differ in the striking frequency with which they named obedience or manners as the first goal. This agreement was taken to mean that "obedience" was functionally synonymous for the two groups, the Asians stressing obedience in child training as a means of assuring the integrity and solidarity of their communities while the Africans emphasise the continuity of an historical, threatened and highly structured relationship of young to older groups. These results did not affirm the earlier data of Gillespie and Allport to the effect that child training is universally moving to independent or realistic training but they did seem to support the observation that cultural forms may persist after their functional meaning has been lost (Klingelhofer, 1971b).

4. In developing procedures for the administration of Raven's Standard Progressive Matrices Test to upper primary school children we evaluated the effects associated with the examiner, the school attended by the student, and the language in which the test was given. All the children in Standard (Grade) VII in two schools, one metropolitan, one rural, were randomly assigned to a language testing condition and to an examiner. The

complete analysis led us to conclude that language of administration had little or no effect on performance of the children on the Progressive Matrices Test; that examiner effects did not bear significantly on the results; and that school location or quality probably has less relationship to performance on tasks like the Progressive Matrice than other more educationally linked tests - as of attainment (Klingelhofer, 1971a).

Discussion

Since the investigations deal with separate questions or issues and were essentially information-seeking or descriptive in character they do not lend themselves to synthesis. The general trends or tendencies noted, both in the investigations summarised above and in the other reports which have not appeared in the professional journals, include:

1. Remarkable similarity in level of ability or in patterns of response to questionnaire items within ethnic subgroups. Asian communities are indistinguishable from one another in most of the tests of questionnaire items; so are African tribal groups.

2. Marked differences in performance of African and Asian students on the Progressive Matrices Test. The differences are taken to reflect the environmental advantages held by Asian students generally.

3. Positive relationship of performance of the Progressive Matrices Test to the educational level attained by the fathers of African boys and Asian girls. Moreover, the level of education attained by parents of secondary school children surpasses that of the population as a whole and emphasises the multiplicative effect of education on the intellectual attainments of a nation.

4. Remarkably close agreement of African and Asian secondary school students on many social and political values and issues, including attitudes toward child training or the uses to which a wind-fall would be put. These attitudes and values at some points clearly conflicted with governmental procedures, and changes in national educational and economic policy to take account of these differences were indicated.

While there are profound differences between individuals in a country like Tanzania - it is probably axiomatic to be struck by the discrepancies or contrasts which are so readily apparent - there are also many close similarities between the children in the schools and this congruence may be expected to have a significant positive bearing on the future developments in the country provided the common elements do not give way to rhetoric.

Finally, to sound a note of caution, the reader needs to be reminded that these results are five years old and that may mean that some of them are five years out of date. It seems likely that the information growing out of the use of devices like the Raven Progressive Matrices, the Harris Draw-a-Man or the Bender Gestalt tests would not be quickly invalidated but the questionnaire survey material in a country as young, as vital, as idealistic and as preoccupied with the welfare of all of its citizens as Tanzania might go stale very quickly.

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A COMPARATIVE STUDY OF THE ACHIEVEMENTS OF PUPILS OF ACADEMIC AND DIVERSIFIED COURSES

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Summary

Reference: Vol.iii (1970-71) J2 (p127-128)

Engineering and Secretarial Practice students of the Diversified Course formed the experimental group and the students of the Academic Course the control group in this study of the Secondary School courses in Madras State, India.

The effect of the two courses was assessed by a comparison of the performance of the pupils in school tests and the public examinations. Their marks in languages and mathematics obtained in the S.S.L.C. Exam and the First-Year Polytechnic Exam were also compared. It was found, that 'low'achievers who opted for the Diversified Course made better progress in common core subjects than those who opted for the purely Academic Course.

The conclusion was that the Diversified Courses were of as sound educational value as the Academic, and might be introduced into more schools.

The report recommends

(a) The devising of suitable tests of admission to the Diversified Course.

(b) Schemes for job-orientation and work experience for the Diversified Course pupils who do not join the Polytechnic.

(c) Longitudinal course studies to investigate the success of pupils, who undergo Diversified Course studies, in

(i) Further Academic Studies
(ii) Technical Courses
(iii) Jobs.

Report

It was felt by the S.I.T.U. Council of Educational Research that the Scheme of Diversified Courses in Secondary schools of Tamil Nadu (Madras

State) in force for over 25 years required comprehensive investigation not only because of the need for periodical evaluation of educational systems but also because of the vast changes in diverse fields in a developing country like India aiming at quantitative and qualitative improvement.

A resolution of the State Advisory Board of Education for the abolition of Diversified Courses in 1968 (since held in abeyance) gave the provocation for the investigation; more particularly, in view of the opinion of several heads of schools which had tried the course over the years, that Diversified Courses had a useful role to play in the educational set-up of secondary schools. The Council of Educational Research thought it necessary and urgent to undertake a time bound Pilot Study confined to one or two specific areas of the problem, leaving open the question of comprehensive research on the Project in all its aspects. Hence the title of the investigation, "A Comparative Study of the Achievements of Pupils offering Academic and Diversified Courses as revealed by their marks in schools and S.S.L.C. Public Examinations."

The purpose of the study among other things was to investigate the comparative effect of the two types of courses on the achievements of pupils in the several school subjects in general, and on 'LOW' achievers in particular.

The Pilot Study extending over a period of about 5 months between November 1970 and March, 1971, was limited in scope.

'Engineering' and Secretarial Practice' were the two diversified courses chosen for the study.

20 boys schools were chosen, 10 from the city and 10 from Muffassal representing a cross section of pupils of both urban and rural areas;and 10 Polytechnics were contacted. In the final analysis, 16 schools from which data were complete, and 4 Polytechnics were included.

Statistical analysis of marks of pupils-both schools and S.S.L.C. Public Examination-analysis of replies to Questionnaire, and interview with heads of participating institutions and concerned teachers were the basis of the Findings and Recommendations.

The marks of two batches of students from the selected schools (one for the period 1964-67 and the other for 1965-68) aggregating 446 for the Academic course and an equal number for the two Diversified Courses were analysed statistically.

Students belonging to Engineering/Secretarial Practice Courses formed the Experimental Group, and those belonging to the Academic Course, the Control Group.

The effect of the two courses of studies was assessed by comparing the changes in the performance of pupils of the two groups in the tests-school and S.S.L.C. Public Examination. The 'net shift' standard error and significance of the difference between the changes were tested using formulae and procedures as recommended for statistical study in the books of Quin McNemar and J.P.Guilford.

The "top 25% of pupils of each of the selected schools (on the basis of the aggregate-marks in Standard IX) were classfied as pupils of 'high ability' and the 'bottom 25% as of 'low ability'(Schools marks were converted to standard scores with 50 as mean and 10 as S.D.)

Comparison was also made of the marks in languages and Mathematics secured by pupils offering Academic and Diversified Courses in the S.S.L.C. Examination and First Year Polytechnic Examination in all the prescribed subjects.

Findings

One of the most significant findings of the study is that 'low' achievers who opted for the Diversified Courses made better progress in common core subjects than those who took a purely academic course. This was supported by the opinions of experienced headmasters and teachers concerned.

The most unscientific manner in which pupils were admitted for the Diversified courses, and the rush for admission to colleges of those passing out of high schools with Diversified course training, without going to suitable fellow-up courses in Polytechnics were noted by the investigators as a result of the analysis of the replies to the relevant questions in the questionaire. This highlights the fact that monetary and human resources are not used for optimum return. These must be taken note of in any future scheme of educational reform at the secondary school levels.

Recommendations

1. Diversified courses are of as potentially sound educational value as the Academic course. The former are not to be treated as inferior courses.

2. Diversified courses may be introduced in more schools, and methods of teaching improved to exploit to the full the 'Practicals' of the courses as the motivating force for developing skills and under-standings, attitudes and interests, and general verbal abilities.

3. Schemes for job - orientation and work-experience for a year or so (not too long a period for those who do not join Polytechnics) in liaison with small scale industries and agricultural sectors may be devised experimentally.

4. Longitudinal case studies may be undertaken with a view to investigating the success of those who undergo diversified course studies in secondary schools (i) in further academic studies. (ii) technical courses (iii) jobs. This would enable the authorities to assess the impact of the Diversified Courses in the secondary school population.

5. Suitable tests should be developed on the basis of which admissions should generally be made to the Diversified Courses in the beginning of the 10th standard. (11th standard being taken as the final year of the secondary schools)

AGRICULTURAL EDUCATION NEEDS OF OUT OF SCHOOL YOUTH ENGAGED IN FARMING

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Summary

Reference: Not listed.

The Government of India, recognising the need for agricultural production commensurate with the rate of growth of population in the country, have made some effort to train young farmers; but the programme needs to be extended to provide for the needs and interests of the drop-outs or 'out of school youth' farmers. This study was designed to determine the personal characteristics of these young farmers, identify their needs and interests, and their attitudes to the agricultural education programme in operation. The enquiry showed a positive interest among the young farmers in improving and increasing their output by learning new techniques, by self education, and an educational programme through village level worker.

Report

Introduction

Agricultural production and the rate of its increase commensurate with the rate of growth of population in this country have been a cause of concern to everyone. Of late we have become dependent on food from outside. There are several reasons for this, but one of the important reasons appears to be lack of information, knowledge and technical skills on the part of farmers about modern methods and farming and agricultural improvement. To remedy this situation, agricultural extension has been given a high priority in community Development, but a systematic programme for providing agricultural education to practicing young farmers has not been prepared.

Recognizing the need and importance of imparting such education to young farmers, the Department of Adult Education made a study of the agricultural education needs of young working farmers, with a view to developing a suitable educational programme for them.

Present Position

According to the 1961 census, India had a population of 439 millions. Of this, 360 millions, which is about 80% of the total population, live in villages. Out of 360 million rural population nearly 72 million (20% of total rural population) are youth in the age group of 15 to 25 years which is considered to be most potential human resource.

As regards the educational background of these youth, 55.5 million (about 78%) are illiterate.

India is at present providing primary education to 76.4 per cent of children of the age group 6 to 11 years. Three fourths of these drop out before completing five years of elementary education. Of those who continue their education through middle school stage about 60% leave the school after the VI Standard. The drop outs from these various stages of formal education either go back to their ancestral occupations, main among which is farming, or seek employment in cities and towns. Among those who have gone back to farming a majority would not have received any education in farming worth the name either in school or outside.

In the existing agricultural education programmes of schools, more emphasis is given on theoretical teaching of subject matter rather than on practice of farming. Also the programmes often operate independently of the needs of the pupils and their communities. Nor are our schools taking care of these dropouts who leave schools in such large numbers and go on the farms. There is no provision of continuing education for the dropouts or for out-of school youth farmers. Government have made some efforts to train young farmers and adult farmers through farmers' training wings, tractor training centres and farmers training camps but the scope of such programmes has been rather limited and it can hardly be called a systematic agricultural education built on the basis of needs and interests of farmers both young and adult.

The existing educational programmes have taken very little notice of educational problems of out-of-school young farmers which are of the following nature:

(a) a high rate of illiteracy
(b) no access to formal education or incomplete studies, without even completing elementary education
(c) need for education for upgrading skills and improving occupational competence even for those who have completed formal education.

The facilities for agricultural education in the country as a whole are inadequate and leave much to be done.

Purpose of the Study

The present study was designed with the following objectives:

(a) to determine some personal characteristics of young working farmers
(b) to identify the needs and interests of young working farmers in respect of their principal occupation, namely agriculture
(c) to determine the attitudes of young working farmers to selected aspects of agricultural education programme.

Geographical Area for the Study and the Sample

The study was conducted in two of the Intensive Agricultural District Programme areas of neighbouring states namely U.P. and Punjab with corresponding control blocks in the same states outside the Programme areas. Thus the study was confined to four C.D. Blocks of U.P. and Punjab. From

these blocks 10 per cent stratified sample of villages was chosen and not less than 10 per cent random sample of young farmers was chosen for direct interview. Thus the actual sample consisted of 206 young farmers, 3.9 per cent of total young farmers of the 23 villages.

Conclusions

In the present investigation while studying the characteristics of the young farmers it was found that the majority of the youths possessed the following attitudes though not well developed:

(a) realisation that the present level of production is not sufficient
(b) confidence in possibility of increasing production
(c) desire and willingness to try out new practices and to experiment
(d) confidence in the people like village level workers, extension agents, adult educators, school teachers,etc, who can guide them in bringing about desirable change.

Besides the above mentioned attitudes, one further desired attitude necessary to facilitate agricultural development is the readiness of the farmer to consider carefully the different alternatives and to make firm independent decisions based on these considerations.

Regarding readiness to make independent decision, it may be said that these youths in most cases did not have the opportunities, as they had to work under the supervision of the heads of their families who were responsible for such decisions.

In order to develop these attitudes firmly and to bring about a favourable change in them to facilitate agricultural production they needed education. Hence, to the illiterate farmers basic education in three R's becomes the first essential requirement for agricultural development.

A change from a largely traditional agriculture, as it prevails today in India, to a modern progressive agriculture necessitates on the part of the farmers, learning to take independent decisions of several kind. Some of these decisions must be taken by the political leadership of the country. Some of the main decisions in this regard are of the following type:

For agriculture to be progressive:

(i) a balance between soils, climate, crops, livestock and people must be maintained properly and with alertness as it goes on changing constantly with the slightest change in the situation
(ii) the proportion in which the land, labour and capital are utilised in farming are to be adjusted frequently to suit the changing situations
(iii) successful control of cost of production and increase in farming income along with the increase in crop yield becomes a necessity if agriculture is to be transformed from a subsistance level profession to a commercial one
(iv) continuous adjustment between agriculture and other sectors of national economy must be carried out.

Therefore, besides basic education, they needed to have also developmental education concerning their occupation.

In India, the Community Development programme has tried to educate the farmers in this regard through extension education and literacy programmes. However, these had not been very effective as would be seen from the low increase in food production of the country. While indicating their attitudes towards different items of agricultural education programmes of the Community Development set-up the young farmers have attached little importance to extension activities. The findings of this study about the attitudes of the young farmers towards agricultural education programmes indicate an over emphasis on the materialistic approach of the Community Development Programme and less attention towards the development of human material and resources.

Though in these programmes physical inputs like seeds, fertilizers, improved implements and insecticides etc., were made available and distributed among the farmers on a large scale it has not succeeded in improving agricultural production appreciably which may be due to a failure to bring about the desired change in the economic behaviour of the farmer. This change can only be brought about by education based on needs and interests. This has been highlighted by the present study of the needs of out-of-school rural youth engaged in farming in the areas served by specialised programmes like the IADP.

The study revealed that education plays an important role in increasing agricultural productivity. Among the young farmers interviewed it was observed that their agricultural productivity increased with the rise in their education. Also the progressive element in the youths was found to increase with the rise in their educational level, particularly among those who had education above the primary level.

In these high yielding areas with the Package Programme in full swing with all its physical and educational activities the average crop yield had gone up to about 37.5 mds of wheat per acre. However, the educated farmer among these youths on an average had produced a crop yield as high as 45 to 50 mds per acre. This showed how a basic educational programme in three R's is essential for improving agricultural production. This production can be accelerated by imparting developmental education related to farming.

This enquiry also showed that almost all the youths were interested in and desirous of learning new techniques of farm production, farm management and farm mechanics. The details about their special interests in different items under these instructional areas varied from individual to individual but there was not a single individual who had shown complete apathy to these items.

The interests expressed by these youths showed that they desired in order of preference, to study farm production (50%), farm management (44.4%), and farm mechanics (31.7%) respectively. Under farm production these young farmers were desirous of studying subjects like insect control (85.4%), weed control (83.9%), crop diseases (81.55%), soil testing and use of fertilization (68.9%), and vegetable gardening (52.9%). Under farm management a majority of the young farmers desired to study marketing (78.6%), soil conservation (77.6%), co-operative farming (66%), farm laws (65.5%), farm finance (44.1%). These subjects were directly connected with investment

and profits. The youths were, therefore, interested in learning things which were concerned with pecuniary gain. Under farm mechanics repair and maintenance of pumps, engines (70.3%), farm implements (64.5%), and tractors (54.3%), were the major interests of these young farmers. They also showed interests in learning irrigation methods and farm layout (46.6%) and use of electricity (20.3%).

These were the interests that were directly expressed by the young farmers during the interview with them. However, these interests did not appear to have been affected by the different educational levels of the young farmers as they were based more or less on their immediate farming needs.

But there was another area where they had remained silent during interviews and where most of them needed education. This was the area of agro-based industries. Young farmers had yet to realise that these industries were part of agriculture and helped in increasing their income.

The study of attitudes of these young farmers towards certain selected existing programmes of agricultural education showed that the youth attached very great importance to self education and an educational programme through village level worker. This implies the desire to learn new things through immediate practical application of the things in the field and built upon their practical experience. This also shows that though there is a definite need of an agricultural education programme for the young farmers the utility of the programme will mostly depend upon the immediate practical use in the field. Therefore, any agricultural education programme for young farmers will have to be broken up into small units for satisfying the immediate needs and interests of farmers. A complete agricultural educational programme should consist, therefore, of a ladder of such short courses which may lead towards the understanding of all the processes involved in progressive farming. While organising such courses their duration and timings should be in accordance with the convenience of the intending learners. This study has shown that the young farmers can spare two evenings in a week and a fortnight after each agricultural season for learning new techniques of farming.

That there is a definite need for such courses is evident from this study. However, it must be mentioned that these courses will not produce agricultural experts as in the agricultural colleges but will make young farmers more efficient. The ultimate aim of these courses should be to establish the young farmers and not to uproot them from their profession to go out in search of white collar jobs.

THE STUDY METHODS AND ACADEMIC RESULTS OF FIRST-YEAR OVERSEAS STUDENTS AT AN AUSTRALIAN UNIVERSITY

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Summary

Reference: Vol. 2 (1969) J1 (p. 118)

The study methods of first year overseas students were examined by the use of Standardised Study Inventories and open-ended questions; and a correlation between the study habits and academic results obtained from the End of Year University Examination was determined.

The results were examined against comparable material obtained from a controlled group of Australian students.

The conclusion reached (other reports to the contrary) was that both in quantity and quality the academic results of overseas students were superior to those of Australian students, but the overseas students' methods were inefficient and inferior (i.e. uneconomical in time and effort) to those of the Australian students, since they denied the students leisure time to enjoy Australian life and engage in a wider spectrum of profitable experiences.

Report

It can reasonably be assumed that, in general, the primary goal of the overseas students who are pursuing tertiary education in Australia is to pass their examinations and thereby obtain the academic qualifications and credentials which will enable them to obtain rewarding professional employment upon their return to their home countries.

In the course of attaining this goal, however, overseas students are confronted by a number of handicaps in comparison with their Australian counterparts. These handicaps are of two types. The first is related to the fact that they are overseas students: They must adapt to unfamiliar social customs quite dissimilar to their own; their dietary habits must undergo radical alteration; most important of all, they are isolated from their families and friends. The second type of difficulty is linked with the fact that they are overseas students: They must adjust to different instructional and assessment methods from those to which they have become attuned; they are faced with the communication and linguistic problems arising from the necessity of conducting their studies in a foreign language.

Additional 'student' handicaps appear to stem from the fact that the training and experience of the overseas student in his home country does not always constitute a fully appropriate background for tertiary education in Australia. He relies more than Australian students on the authority of the

lecturer (Noesjirwan, 1970:394). He is much more familiar with reproducing facts and principles than he is with evaluating them and extrapolating from them (Adam, 1966:15). He has scant acquaintance with suitable methods of preparing for examinations of the type customarily encountered in Australia (Brennan, 1968:20). He is disinclined to initiate discussion or to express critical opinions in seminars and tutorials (Kaldor, 1965:33).

It has also been pointed out on a number of occasions that the overseas student's educational background predisposes him to use ineffective study methods. He relies largely on rote memorisation; he focuses upon the recall of a limited range of factual information; he over-emphasises the reproduction of the material contained in lecture notes and prescribed readings.

Considering these impediments to effective study, it is hardly surprising that it is also often reported that overseas students achieve relatively poor academic results and have a pass rate which is lower than that of local students. (Adam, 1966:1). Further, Posen has pointed out that the academic performance of the private students[1] is inferior to that of the sponsored students (Posen, 1968: 484-85).

An empirical study was carried out with the first-year overseas students at Monash University in an attempt to provide a factually-based answer to such questions as:

1. Do overseas students have poor study methods compared with those of Australian students?

2. Are the academic results of overseas students inferior to those of Australian students?

3. Do sponsored students achieve better academic results than private students?

4. What is the relationship between the study methods of overseas students and their academic performance? Do students with 'good' study methods achieve better results than those with 'poor' study methods?

In addition, it was hoped to throw some light on the overseas student's general study behaviour. How does he attempt to overcome the handicaps with which he is faced? How often, and for how long, does he study? Does he work harder than the Australian student? Does he manage to keep up with set work and assignments?

Study Methods

Two well-known, standardised study inventories were used: the Wrenn Study-Habits Inventory (WSHI) and the Brown-Holtzman Survey of Study Habits and Attitudes (SSHA). These were administered during the second term of the academic year to 65 first-year overseas students (approximately 80 per cent of all first-year overseas students) and a randomly-selected control group of 37 first-year Australian students.

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[1] A private student is one who lacks any governmental or institutional sponsorship.

Wrenn Study-Habits Inventory: The scores on the WSHI reveal several striking features. The Australian students, with a mean score of 40.0 are markedly superior to the overseas students, whose mean score is 6.7. This finding is particularly significant in the light of Wrenn's warning that "if your total score is below a plus 15, which is the average total score (median) of a large group of college freshmen, you certainly need to examine your individual scores with great care" (Wrenn, 1941:2). Statistically, this difference between the scores of the overseas and Australian students is highly significant (P .001).

When males and females are considered separately, the same characteristics are observed. The control group males achieve a mean score of 46.0, compared with 10.8 for overseas males; control group females score 25.9 compared with -9.9 for overseas females.

A negative score on the WSHI is indicative of very poor study methods. Of the overseas students, 42 per cent obtain a negative score compared with 19 per cent of the Australian students.

All differences are statistically significant.

Brown-Holtzman Survey of Study Habits and Attitudes: The SSHA provides similar findings. While the mean score of the control group is at the 55th percentile, that of the overseas students is at the 33rd percentile.

Control group males attain a mean score equivalent to the 56th percentile compared with the 40th percentile for overseas males. The score of the control group females is equivalent to the 53rd percentile compared with the 10th percentile for overseas females.

If their responses to standardised study inventories are a valid criterion, the study methods of overseas students must be judged to be quite inefficient, and inferior to those of Australian students.

Academic Results

The examination results of all the 83 first-year overseas students at Monash University were compared with those of the total of 1,572 non-overseas students.

All students sat for four subjects. When the actual number of subjects passed by the overseas and Australian students is compared, there is again a statistically significant difference between the two groups (P. .05). The difference, however, is in favour of the overseas students who passed an average of 3.65 subjects, compared with 3.42 for the Australian students.

Irrespective of the actual number of passes obtained, the two groups may have differed in the quality of their answers. To test this hypothesis, the honours results (Credit, Distinction, High Distinction) were compared. Again, there was a significant difference in favour of the overseas students. 40.3 per cent of all results of the overseas students are of honours standard compared with 34.8 per cent for the Australian students.

On the basis of these results, it seems clear that, both in quantity and quality, the academic results of overseas students are superior to those of Australian students.

Sponsored vs Private Students

Of the total of 83 overseas students, 35 were sponsored and 48 private students. The sponsored students sat for 140 subjects. Of these, they passed 130 and failed 10, at an average pass rate of 3.71 subjects per student. The 48 private students sat for 192 subjects, passed 173 and failed 19, at an average pass rate of 3.61 per student. There is no statistical difference between the results of the two groups of students.

The sponsored and overseas students were also compared with respect to the honours gained. This was done in two ways. First, the total number of honours gained by each group was compared. Second, a weighted honours score[1] was calculated for each student, and the groups were then compared. On neither basis is there any statistical difference between the two groups. Private students achieve just as high a proportion of honours, and of equally as high a standard, as do sponsored students.

On the evidence of these findings there is little foundation for the belief that sponsored students achieve better academic results than private students.

Comparison of Study Methods and Academic Results

The correlation between students' scores on the WSHI and SSHA and their academic results was determined in order to ascertain whether students with 'good' study methods (as shown by high scores on WSHI and SSHA) tend to achieve better results than students with 'poor' study methods.

In the case of the control group students, scores on both the WSHI and SSHA show a positive and significant relationship with academic results.[2]

On the other hand, on neither the WSHI nor the SSHA do the scores of the overseas students show any relationship whatsoever with their academic results.[3] Overseas students with low scores on standardised study schedules are just as likely to obtain high academic results as are those with high study methods scores.

Characteristics of Study Behaviour

The preceding results, taken in conjunction, raise a number of questions. How does it come about that the overseas student whose study habits are, on two well-recognised criteria, noticeably inferior to those of the Australian student, nevertheless obtains higher academic results? Are there other factors operating which might account for the apparent anomaly - factors which enable him to be a poor, but highly successful, student?

All students in the overseas and Australian samples were asked a number of open-ended questions which provided them with an opportunity to amplify their answers and to include comments and explanations. The responses to several of these items shed some light on the manner in which the overseas students surmount their difficulties.

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[1] Credit = 1, Distinction = 2, High Distinction = 3.

[2] The product-moment correlation coefficients are $r = 0.46$, $P < .01$ and $r = 0.39$, $P < .05$ respectively.

[3] The coefficients are $r = 0.03$ and $r = 0.02$ respectively.

Question: "On the average, how many nights a week do you study?"

The overseas students study, on the average, 5.7 nights per week, compared with 5.1 for the control group.

93 per cent of overseas students study at least 5 nights per week; 63 per cent work at least 6 nights per week. For the control group these figures are 72 per cent and 37 per cent respectively.

Question: "On those nights, how many hours do you usually study?"

On their study nights, 57 per cent of overseas students and 42 per cent of Australian students study for at least 4 hours per night. The average time worked on each study night is 3.7 and 3.3 hours for the overseas and Australian students respectively.

Thus, the overseas student works on more nights and he works longer on each occasion. Taking these two items jointly, the overseas student studies, at night, for an average of 23.1 hours per seek compared with 16.8 hours for the control group - that is, almost half as much again.

Question: "For approximately how many hours altogether do you usually study at week-ends?"

60 per cent of the overseas students study for 10 hours or more at the week-end. Only 9 per cent of the control group do so.

Question: "On the average, at what time do you go to bed each night?"

More than one-third (34 per cent) of the control group go to bed before 11 p.m. Only 3 per cent of overseas students do so: 97 per cent of them go to bed after 11 p.m.

The average bed-time for the control group is 5 minutes past 11. For the overseas student, it is almost midnight (5 minutes to 12).

Question: "In general, how often do you go out in the evenings for entertainment or pleasure?"

Less than one in five (19 per cent) of the control group, compared with more than half (52 per cent) of the overseas students rarely or never go out.

More than one-quarter (28 per cent) of the Australian students go out at least twice a week. Only one overseas student (2 per cent) does so.

Question: "In general, do you manage to keep up to date with set work and assignments?"

Almost all control group students (92 per cent) state that they keep up with set work, whereas one-third (32 per cent) of the overseas students state they are not able to do so.

Implications

Academically, the overseas students achieve highly commendable examination results, but the price that they pay is high - probably much higher than it needs to be. The educational traditions to which they have been exposed

and the demonstrably inefficient study methods which they employ, are counteracted only by dint of single-mindedly focussing attention upon their academic goals.

In comparison with Australian students, they study more often, work longer, have less sleep, sacrifice more of their week-ends, and have far fewer social and recreational outings. And yet, despite their industriousness, they experience much more difficulty in keeping up to date with set work - an ever-present factor which appears to perpetuate the cycle.

As things stand, the overseas students are achieving their academic goals, but little more. Off the campus they have only fringe contact with the broader web of Australian life and little opportunity to gain any real measure of awareness and understanding of the Australian people and their way of life.

In view of the results of this study it seems a feasible hypothesis that if the overseas students were assisted to adopt more efficient study methods they would obtain equally high academic results while allowing them more leisure time not only to enjoy their stay in Australia but to engage in a wider spectrum of profitable activities and experiences than they do at present.

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ADJUSTMENTS AND ATTITUDES OF INDIAN STUDENTS IN CANADA

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Summary

Reference: Vol.2 (1969) E30 (p.59 - 60)

This is a study of the social, emotional, academic and financial problems experienced by Indian students studying in Canadian Universities, and the effect these have on their adjustment and attitudes to Canada.

It analyses the attitudes and problems of the upper, middle and lower social classes; and examines the significance of age, food habits, personality traits and place of residence in influencing adjustment and attitudes.

Report

The problem researched is to find out the adjustment and attitudes of Indian students in Canada and to collect information about their academic, social and personal problems and their expectations before they came to Canada.

Twenty-one member institutions of the National Conference of Canadian Universities and Colleges (NCCUC) were selected for the study. Five hundred questionnaires were sent to the Indian students on these campuses (37 per cent of the total Indian student population in Canada). Sixty-seven per cent of the questionnaires were received from the students. Of these, only 59 per cent of the questionnaires were complete enough to justify coding and analysis.

The first questionnaire sent to the Indian students was a "pre-coded" one and thus the responses were limited. To overcome the limitations of the "pre-coded" questionnaire used in the extensive survey, a supplementary questionnaire with "open-ended" questions were sent to 120 Indian students. Ninety per cent of the supplementary questionnaires were returned to the researcher after completion.

Later, the researcher visited 13 Canadian University campuses and interviewed 142 Indian students (10 per cent of the total Indian student population in Canada) to elaborate on the conditions of the students in Canada. The interviews consisted of "open-ended" questions to obtain qualitative information about the Indian students.

Further, the objective of the study was to test some socio-psychological hypotheses developed on the basis of the previous study conducted by the researcher. The hypotheses were:

1. There is a significant relationship between the "self-concept", and adjustment and attitudes of Indian students. Students

coming from lower socio-economic (middle and lower social class) levels would experience greater difficulties in adjusting and profiting from their study abroad.

2. Students coming from a rural background would find more difficulties in adjustment than students with an urban background

Some of the results of the study are cited here.

Emotional Difficulties

Indian students in Canada experienced many problems. They had difficulties in finding accommodation. They had financial troubles. They had to make many social and economic adjustments and a majority experienced emotional difficulties. They were likely to be homesick and lonely and sexually frustrated.

Students from all age-groups experienced emotional difficulties in the sample, but according to the data, emotional difficulties increased as the age of the students increased and tapered off only in the early thirties.

It was found that age was directly related to the adjustment of students in this country. A high percentage of students belonging to the age group up to 25 years were more highly adjusted than the students who were 26 years or more. A larger number of these older students were married and came to this country leaving behind their wives, husbands and children. This situation put greater emotional strain on these students. Three per cent of upper, 16 per cent of middle and 32 per cent of lower class students mentioned that "separation from wife/husband/children" were the reasons for their dissatisfaction in this country.

Financial Problems

A minority of Indian students reported that they have "great or very great" financial difficulties. The number of students who came to this country on their own was negligible compared to the students who came here with some type of financial assistance. A greater number of sponsored students mentioned that financial assistance should be increased to meet the rising cost of living in Canada. Many students coming to Canada with the notion that it was easy to get part-time jobs while they study here, found the reverse true.

It was observed among students with severe financial strain, a greater percentage of them from upper and lower classes had better adjustment than the middle class students. Many lower class students came from poor families and thus learnt to handle their finances more efficiently.

Academic Problems

A small number of Indian students mentioned academic difficulties in Canada. For the most part, these students reported difficulties in the use of language - oral and written, in student-teacher relationship, and the lack of recognition for Indian degrees.

The main difficulty was experienced in the use of the English language, in academic seminars and discussions, and in the writing of essays and papers. For those students who experienced difficulties in studies, oral expression was the most obvious.

A greater percentage of Indian students reported having difficulties in communicating with Canadian professors. The Indian tradition which holds that the teacher is superior and that the students should look to him for advice and direction misled students to expect similar relationships with Canadian professors. They were made particularly uneasy by the professors' readiness to leave them to their own initiative.

Fifty-two per cent of the Indian students complained that Canadian universities did not recognize their Indian degrees and thus they had to waste one or more years repeating the same courses they had already completed in India. They felt that it was discrimination on the part of Canadian university authorities towards foreign-earned qualifications.

Duration of stay and academic difficulties

Only a small percentage of both graduate and undergraduate students experienced serious academic difficulties during their stay in this country. Most of these students experienced these problems in the second and third years. And, there was a decrease in the percentage of students who experienced high academic difficulties after the third year. At this period, most of the students had completed their course work and were engaged in writing theses or doing research to complete the degree requirements.

Attitudes related to Canada and their own conditions in this country

A high percentage of students from upper, middle and lower classes had favourable attitudes related to their own situations in this country. It is interesting to see that a greater number of middle and lower class students had more favourable attitudes towards Canada and their own situations in this country than did upper class students.

Social Life in Canada

Many students mentioned difficulties in securing housing and cited colour discrimination and high rent as major reasons.

In connection with housing, jobs and dating, the students mentioned colour discrimination. They were disappointed to find greater colour discrimination in this country than they had expected and saw it as a social threat. As a result, many of them tended to avoid meeting Canadian people and shy away from social activities. Most of these students lived with students from their own countries and created small enclaves in which they could find friendliness and security.

Visit to families

More upper and middle class students visited families in this country than did lower class students. The upper class students visited a greater number of families, both Canadian and Indian, and they had closer acquaintance with these families than did students from middle and lower classes.

More lower class students (68 per cent) experienced difficulties in making friends with Canadians than upper class (57 per cent) or middle class (57 per cent) students. The most frequently mentioned reasons for their difficulties were differences in the ways of thinking, pressure of work and the some-what withdrawn and introverted nature of Canadians. Students

from all classes mentioned cultural reasons as the main hindrance to making friends.

Relations with the opposite sex

Students from all the classes experienced difficulties with persons of the opposite sex in this country mainly because of their unfamiliarity with Canadian culture and their own rigid cultural conditioning. Some students believed that Canadian girls did not go out with them because of colour discrimination.

Leisure-time activities

Such factors as cultural differences, pressure of academic work, colour discrimination and the short period of stay seriously limited the students' social lives.

Characteristics of Canadians and Indians

A greater percentage of upper, middle and lower class students rated Canadian higher than Indian in "social" behaviour and strength and activity, whereas Indian was rated higher than Canadian in "individual" behaviour.

Socio-economic level

It was found that the socio-economic level of the students was a main factor in their adjustment in Canada. The researcher noted a direct relationship between adjustment and socio-economic level of students in this country. Those students who came from upper class families adjusted better than those students who belonged to the middle and lower classes. Students from the upper socio-economic level had some background of western manners and customs and were better prepared for the differences of western life.

AN INTENSIVE STUDY OF 3 COLLEGES OF EDUCATION IN PUNJAB AND FOLLOW-UP ACTION

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Summary

Reference: Vol. 11 (1969) G3 (p84)

An investigation into the functioning of 3 colleges of education identified their problems as follows:

(a) Syllabus too lengthy and theoretical.

(b) Insufficient time for discussions of practical teaching, and inadequate supervision.

(c) Method of teaching mainly lectures.

(d) Lack of books generally and books in the mother tongue particuarly.

(e) Evaluation of theory and practical work by persons unfamiliar with the modern approaches in education.

(f) Admissions on the basis of performance on previous examinations.

(g) Lack of opportunity for the professional growth of the teacher educator.

Follow up work was conducted by a series of conferences and discussions and seminars for the teacher-educator. A blue-print for change, including the broad outlines of a new programme, was agreed upon and committees set up to work out the details of the severl aspects of the teacher's training.

For the future it is planned to organise workshops for the teacher educators to orient them to diagnostic and remedial supervision procedures in the supervision of practical teaching, and introduce them to the preparation of teaching tasks, and micro-teaching techniques.

Report

The Problem

Teacher Education is a difficult and challenging task. While there is no limit to what one would like the student-teachers to learn, the programme has to be planned keeping in view the limited time during which it has to be completed. It is necessary to examine the programme continually in order to see how it can be improved, to make sure that the important aspects are receiving due attention, and that time is not being wasted on any superfluous items. The programme has to be viewed in its entirety, so that a change suggested in one area is not at the cost of any other area.

It was decided to make an intensive study of some of the colleges of education which were following the same programme. The aim was to examine the actual functioning of the programme in the colleges, to find out the problems being faced by them in carrying it out, and to determine the scope for improvement.

Procedure

Three colleges in the Punjab, affiliated to Punjab University were studied: one a Government College, the other two private colleges. One of the private colleges was for women students only, the other private college, and the Government College were co-educational institutions. The two private colleges had approximately 250 students each, while the Govt. College had about 320 students. The two private colleges were run by religious organizations, and their funds were supplemented by these organisations, more in the case of one than the other.

As far as possible all aspects of the programme were studied. The investigators visited each college and spent about a week to ten days in interviews and observation.

In each institution interviews were held with the Principal, all the staff members, and about twenty-five to thirty students. In selecting students for study an attempt was made to secure representation on the basis of sex, academic achievement (high, average, low), teaching subjects, and whether they were hostel or day students.

A few class lectures and other group activities were observed. But the time was short and some of these activities were held only once a week or less. Hence the opportunity for observing them was rather limited. On the other hand since the investigators were spending the full day at the college, and some members of the team lived in the college hostels, there were opportunities for informal contacts and observation, which proved useful.

Findings

Only some of the major findings are discussed here. Information specific to separate institutions is not included, rather common elements are stressed.

Courses of Study:

During the training programme the major portion of the time of the student teachers was occupied by the courses of study. Therefore what

they could get from the programme depended largely on the syllabus prescribed by the university. There was considerable similarity in the reactions of the teachers and the student-teachers to the syllabus as a whole. The most commonly expressed views among both groups were that the syllabus was too lengthy, too theoretical; and that there was overlap between the different subjects. There appeared to be a need for reducing theory as well as of bringing out the practical implications of the theory studied. On the other hand, there were indications that the academically gifted students did not find the course challenging enough. Teacher educators were generally aware that some of the courses needed to be updated.

Student Teaching:

The programme of student teaching included demonstration lessons given by members of the staff, discussion lessons by students, and about a month's teaching in schools after the final examination in theory.

Each student observed two demonstration lessons, one in each of his or her teaching subjects. The students reported that they found these lessons useful, and were of the view that there should be more such lessons to demonstrate the teaching of different types of subject matter.

The student-teachers were required to give two discussion lessons each, and to observe about 30 lessons of fellow students. Although the majority of student-teachers said that they learnt something from these lessons, they were agreed that after a time it became a boring routine. Several teacher educators expressed dissatisfaction with the discussions following both demonstration and discussion lessons. The common problems appeared to be that the student teachers were unable or diffident to discuss the lessons critically, and that sufficient time was not budgeted for the discussion. These views were confirmed by the observations of the investigators. Attempts were being made to prepare the student-teachers for participating in the discussions.

With regard to practice teaching in school the main problem was that of supervision. Each teacher educator was expected to supervise about twenty students, and it was impossible to give sufficient time to all lessons. Further, teacher educators often had to supervise lessons in subjects with which they were not familiar.

There was a marked lack of agreement among teacher educators on the objectives of student teaching, and they differed on what they tried most to convey to the students they supervised. Although students were helped to plan their lessons in advance, no effort was made to inculcate teaching skills before they entered the class room. In fact there was a lack of awareness of activities that could be introduced for this purpose.

Method of Teaching:

The methods of teaching most commonly employed by the teacher educators were lectures, lecture-cum-discussions, and lectures supplemented by assignments. There were a few notable exceptions, but generally the teacher educators were not trying out in their own teaching the progressive methods which they were discussing with their students. There were, of course, serious difficulties in introducing new methods. The majority of student teachers were not used to participating in discussions, and their reading habits were poor. Besides, suitable reading material

was not available in the mother tongue. One institution appeared to attract a better calibre of students, and it was mostly in this institution that some innovations had been made in teaching methods, and the students had done assignments which required consulting various sources. All three institutions had tried some form of seminars and tutorials, but in only one were they a regular feature. Here too there was much scope for improvement.

Individual Study:

The majority of students were relying on books written from the examination point of view. In all three institutions members of staff had tried to guide them to more meaningful study, but only in the institution in which the students had a comparatively better educational background had they met with partial success. The lack of good books in the mother tongue was a serious problem.

Library Facilities:

Considering the difficulties of procuring books in India two of the institutions could be said to have fairly good libraries. In all three institutions there was scope for subscribing to more professional journals. The students expressed the need for more copies of certain basic reference books, also for school text books which were required for their practical work.

Evaluation of Theory:

Evaluation appeared to be one of the major problems of the colleges of Education. Fifty per cent of the marks allotted to theory were evaluated by means of internal assessment, and fifty per cent by external assessment.

The difficulty with internal assessment was that there had been no attempt to bring about parity between the evaluation done in different colleges.

Regarding external assessment the general complaint was that the type of questions set encouraged rote learning rather than understanding, and the same questions were repeated over the years.

Evaluation of Sessional Work:

Two hundred marks were assigned to sessional work which included participation in co-curricular activites, social service, class participation, general behaviour etc. Apart from these factors being difficult to assess objectively there was a lack of clarity among staff members on what they were to evaluate.

Evaluation of Student Teaching:

Evaluation of teaching skill was made on the basis of two final lessons. These were observed by an internal examiner and an external examiner. A coordinator was referred to in cases of doubt. In all three institutions the teacher educators complained that the external examiners were headmasters of long standing who had old fashioned ideas and did not appreciate the methods advocated by the colleges of education.

Admission Procedures:

Students were admitted on the basis of their performance on previous examinations. In two colleges interviews were also held, but

according to several staff members these were a mere formality. Generally the staff were of the view that other factors besides achievement should be taken into consideration.

Co-curricular Activities:

All three institutions were organising a number of co-curricular activities. The students were appreciative of these, they said that they not only enjoyed these activities but learnt much from them. Several reported that these activities had helped them to gain confidence in facing an audience.

Professional Growth of Staff:

The majority of teacher educators had participated in seminars and workshops organised by the National Council of Educational Research and Training or by other organisations.

Two institutions had extension services departments attached to them. Most of the staff members of these colleges had conducted workshops and seminars for teachers, some of them were also regularly visiting schools to guide projects and give talks.

Only a few teacher educators are actively engaged in research. The major obstacles mentioned by them were heavy work load, lack of guidance, inadequate library facilities and lack of finances.

It may be said there was much scope for improvement in various aspects of the programme, particularly in the syllabus, in student teaching, and in evaluation. At the same time in all three institutions a sincere concern among the Principals and staff members to do their best for the preparation of teachers was evident. They had many good ideas for the improvement of the programme which have been helpful in the follow-up action.

Follow-up

On the basis of these findings the Department of Teacher Education introduced its Intensive Teacher Education Programme in the Colleges of Education affiliated to Punjab University. This is a programme of comprehensive improvement of Teacher Education which is being carried out in selected regions in the country. As a first step a conference of the Principals of the Colleges involved was organized. Representatives of the Punjab University and of the Departments of Education of Punjab, Haryana, Himachal Pradesh and Chandigarh (the states and union territory in which the colleges were located) were also present. A working paper based on the study was presented at the conference. Papers giving suggestions for the improvement of various aspects of the programme were also discussed. The conference gave its recommendations regarding the syllabus, the practice teaching programme, admissions, and certain internal problems. A blue print for change including the broad outlines of a new programme was agreed upon. In this programme there was some reduction in theory, and greater emphasis was placed on practical work. It was decided to set up committees to work out the details of the syllabus in each subject.

The Syllabus Committees comprised of representatives of the colleges of education involved, the Central Institute of Education, and the

Departments of Science Education and Teacher Education of the National Institute of Education. An attempt was made to bring the syllabus in each subject in line with the latest developments in the field. To ensure that duplication was avoided and all important aspects covered the syllabi were discussed in a general meeting of the members of the various committees. The draft syllabi were submitted to the Board of Studies of Punjab University.

At this juncture two new universities, i.e. Guru Nanak University and Himachal Pradesh University were set up in the region. Some of the colleges formerly affiliated to Punjab University were transferred to these universities. The programme was extended to cover all the colleges of education in Punjab, Haryana Himachal Pradesh, and Chandigarh.

The syllabi drawn up by the committees were accepted with minor modifications by Punjab University and Guru Nanak University. Himachal Pradesh University has for the present suspended its B.Ed. programme due to a surplus of trained teachers in the state. It is hoped that when the B.Ed. course is revived by the University the new syllabi will be introduced.

In the new programme considerable change had been introduced in the syllabi for Teaching of the Mother tongue, Teaching of English, Teaching of Science, and Teaching of Mathematics. Therefore, seminar-cum-workshops in these subjects were held for the teacher educators who were to teach them. The programme in Teaching of English was carried out in collaboration with the Regional Institute of English, Chandigarh; the others were organised with the help of the Department of Science Education and the Department of Text Books of National Institute of Education. The aims of these programmes were to help the teacher educators to acquire a deeper understanding of the nature of the subjects concerned, and to introduce them to modern methods of teaching them. Some instructional materials were also prepared at these workshops.

Some of the other programmes of the Department which are being carried out on an all India basis are also having an impact on the colleges in this area. Under one of these the Department has made a study of admission procedures in colleges of education all over India, and an intensive study of some outstanding procedures. On the basis of the study suitable admission procedures have been recommended to the colleges.

In another programme the Department is organising a series of seminars designed to help teacher educators to plan research projects. Teacher educators come to these seminars with tentative research designs, which are discussed and refined during the seminar.

Future Plans

The two areas in which the colleges appear to be most in need of help are evaluation and Student Teaching.

The weightage given to internal assessment has now been reduced. Consequently, the importance of the external examination has increased. It is proposed to hold workshops for the paper setters of the external examination. At these workshops blue prints for the papers and sample question papers will be drawn up. It is also proposed to organise a workshop for representatives of the colleges of education to work out objective procedures for the evaluation of sessional work.

With regard to student teaching it is planned to organise workshops for teacher educators to orient them to diagnostic and remedial supervision procedures. It is also proposed to introduce them to the preparation of teaching tasks and micro-teaching techniques.

THE HEALTH NEEDS, INTERESTS AND PROBLEMS OF THE UNIVERSITY OF LAGOS' STUDENTS

Dr. Zacchaeus A. Ademuwayun
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Summary

Reference: Vol.3 (1970-71) R8 (p.178-179)

Nigeria expects much from its university graduates, and to live up to the expectation university students must be healthy. The report identifies students' greatest needs to be education for emotional and social adjustment to university life, education in family life and sex; their problems, pregnancy out of wedlock; abortion and the unwedded mothers; the use of drugs, alcohol and tobacco; the dangers of communicable diseases and self medication; and western medication versus native medication. The report emphasises the need for counselling and guidance, and education for healthy living, as well as for better relationship between university authority and student body; for most of the students' ill health sprang from psychological rather than physical causes.

Report

This study is about the health conditions of the university students in Nigeria. Its concern might well have been the concern of Anderson in the following passage where he writes about United States College students:

> A college student of today lives in the most fantastic era in all of recorded history. More events and advances have been crowded into the past fifty years than have occurred in any previous five centuries. As knowledge advances at a geometric rate, the social structure becomes more and more complex and makes greater demands in terms of human adaptation. To adjust effectively to the socio-economic melieu that he will find himself after graduation the student must prepare himself in a diversity of fields of knowledge. All are important to his life. His understanding of health is especially important because health is the vehicle on which travels the hopes, the accomplishments and the joys of life.[1]

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[1] C.L. Anderson, Health Principles and Practice (Saint Louis: The C.V. Mosby Coy., 1967), page 1.

The need to examine the health needs, interests and problems of the university students in Nigeria is brought about by two major inter-related reasons:

1. Nigeria very much values education; and university education is regarded as crucially important for national development and socio-economic reconstruction. Consequently, the people expect very much from the university graduates.

2. Nigerian University students of this generation are in a unique position in the society and how they achieve their University educational objectives is a critical concern of all.

The Study

This study, sponsored by the University of Lagos in 1969/70 academic year, is entitled "Project Quest in Health Education Studies".

The aims of this study are:

1. to identify the exact health needs, interests and problems of the students in order to help them better meet their health needs and solve their health problems

2. to make the students participate in identifying their health needs and problems which can be ultimately utilized to set realistic priorities when developing a health education programme for them

3. to produce baseline data for developing relevant health education curriculum for University students in Nigeria

4. to use the University of Lagos as a pilot University in this approach to health education in Nigeria.

Underlying assumptions are:

1. that most of the health problems of the University students are preventable through meaningful health education programmes

2. that there is need for health education for all the University students where the initiative for healthful living is virtually the decision of the students as individuals but where pressure of academic work can easily take priority over health protection and promotion. This need is further confirmed by the fact that, at the moment, organized health education is virtually nil in pre-university education in Nigeria

3. that a pragmatic health education programme requires the utilization of relevant health needs, interests and problems of the students to be health-educated

4. that relevant health education will help the students to learn with less stress and strain than it is currently the case with many of them.

Methodology

Study Coverage:

The study was conducted among the students of the University of Lagos including school of nursing, and College of Medicine in 1969/70.

Sample Used:

A random sample of three hundred of the 1,500 students, i.e. about 20 per cent of the total students body was covered in the investigation.

Unit of Analysis:

The expressed and recognized health needs, interests and problems of the students (N.C.E., undergraduate, medical, nursing and postgraduate students) by students and University health service staff, particularly physicians and nurses, as well as health records were used as the unit of analysis in the study.

Instruments used in the study

1. Questionnaires:

As part of this investigation, questionnaires were administered to 300 students, as well as to 10 members of staff of the two on-the-campus University Health Centres (one at Akoka and the other at Idi-Araba).

The questionnaire for the students was in three parts. The first part was intended to make possible the identification of students' priorities from given general or broad health problem areas. The students were asked to indicate their sex as well as year in the University. The second part was aimed at getting down to specifics in identifying the health needs, interests and problems by further breaking down the broad health problem areas into general behavourial patterns or categories. The students were, as in the first part, asked to indicate their sex and year in the University. The third part was aimed at getting down to more specifics still in identifying the health needs, interests and problems by focussing on students' health practices in selected health problem areas. In order to encourage better frankness than was possible in the first and second parts of the questionnaire, the students were instructed not to indicate their sex or year in the University.

The questionnaire for the members of staff at the University Health Centres was intended to identify the health needs and problems of the students as the members of staff recognized them. Some opinion questions were also asked.

To encourage frankness, the purpose of the study was clearly stated in an introduction, and confidentiality of individual questionnaire was stressed. All completed questionnaires were returned by November 1970.

2. Interviews:

There were informal and formal interviews with the students and the Health Centre staff covered in this study to discuss students' health needs and problems generally in the context of the questionnaire and objectives of the study.

From the methodology it has been possible to compare and contrast what the students and the staff of the University Health Centres considered as the students' health needs and problems. It has also made available enough data for objective analysis and significantly valid and reliable conclusions.

Data Processing

The I.B.M. Computer Work No. 887 of the Department of Community Health, College of Medicine, University of Lagos, was used in the analysis of the data collected in the investigation.

Findings

Health Problem Areas Identified by the Students:

Table I

	Problem Areas	Identified by Respondents %
1.	Emotional and Social Health	70.9
2.	Family Life and Sex Education	69.2
3.	Prevention and Control of Communicable Diseases	68.9
4.	Community-Environmental Health	68.2
5.	Healthful University Living	65.3

Specific Problems in the Problem Areas

(a) Emotional and Social Health

Problems of how to get along with oneself - e.g. how to realistically meet personal emotional needs and problems;

educational, financial, employment or career, and family problems.

Problem of human or interpersonal relationship: how to get along with others; clash of personal and group interests; concerning student-staff relationship; concerning student-administrator relationship; general male-female interpersonal problems.

Problem of adjustment to university living environmental conditions, e.g. what to adjust to; problem of anonymity; problem of intellectual adjustment; influence of sharp contast between pre-university life and university life on students at the University, problem of the missing link; problem of peer influence and social pressure on the individual.

(b) Family Life and Sex Education

(i) Problems of boy-girl relationship at the University are highlighted as follows:

- distrust of each other by boys and girls;
- dating problem;
- making a wise decision about life partner;
- facing the challenges of abortion, pregnancy out of wedlock, unweded mothers, and venereal diseases;
- preparation for parent-hood;
- family planning.

(ii) Family life problems including:

- responsibility of members of the family today;
- problems of "deputizing" wives and husbands as factors in broken homes;
- polygyny or polyandry?
- polygamy or monogamy?
- cross-cultural crisis: native culture versus western culture family pattern-wise

(c) Community-Environmental Health

The problems highlighted concern ecological relationship between personal health and community-environmental health:

- air polution, water shortage or pollution, food pollution, noise pollution, improper collection and disposal of refuse and human wastes.

(d) Healthful University Living

The problems are concerned with:

overcrowding dormitories and classrooms;

poor sanitary university environment - poor toilet facilities, irregularly removed refuse bins;

lighting and acoustics;

water supply;

eating facilities;

games facilities;

overcrowded timetable or course loads with no room for enjoyment of leisure;

human relationships: student-student, student-staff, student-administrator, student and other university staff relationships

- e.g. kitchen, hostel, health centre and gate staffs.

(e) Prevention and Control of Communicable Disease

Few of the problems under the heading are strictly due to personal carelessness of the students while most problems are due to poor community health facilities and practices. Facing the challenge of careless personal and community health practices as major factors which negate effective prevention and control of communicable diseases is a cardinal problem. Factors involved include: inadequate toilet facilities; insanitary toilet habits; venereal diseases due to careless sex practice; drinking of poor water supply and eating of polluted foods; living in insanitary college environment; delayed reports of health problems; inadequate health services; and self-diagnosis and self-medication by students.

Specific Personal Health Practices

Table II

	Questionnaire	Health Practice	No. of Respondents	%
1.	Do you usually engage in self-diagnosis and self-medication	Yes No No answer	188 64 18	69.6 23.7 6.7
		Total	270	100.0
2.	Do you usually take alcoholic drinks?	Yes No No answer	146 122 2	54.1 45.1 0.7
		Total	270	100.0
3.	Do you smoke cigarette?	Yes No No answer	142 126 2	52.66 46.7 0.7
		Total	270	100.0

4.	Have you ever used any contraceptive, or has any been used for you?	Yes No No answer	136 120 14	50.4 44.4 5.2
		Total	270	100.0
5.	Do you usually take any drugs or pills to keep you from sleeping?	Yes No No answer	100 152 18	57.0 56.3 6.7
		Total	270	100.0
6.	Do you usually take any drugs or pills to send you to sleep?	Yes No No answer	92 152 26	34.1 56.3 9.6
		Total	270	100.0
7.	Do you usually visit the native doctors (native medicine men) for cure or consultation?	Yes No No answer	40 188 42	14.8 69.6 15.6
		Total	270	100.0
8.	Do you usually visit the Prophets or Mallams for cure or consultation?	Yes No No answer	40 208 22	14.8 77.0 8.2
		Total	270	100.0
9.	Do you usually use "Brain Tonics" to help you in your studies?	Yes No No answer	12 240 18	4.4 88.9 6.7
		Total	270	100.0
10.	Do you usually smoke Indian Hemp?	Yes No No answer	10 248 12	3.7 61.5 4.4
		Total	270	100.0

The Commonest Health Problems Among the Students as Identified by the University Health Personnel at the Akoka and Idi-Araba Health Centres

Table III

	Health Problems	Identified by Respondents %
1.	Malaria	85.7
2.	Physicical & Brain fatigue	85.7
3.	Venereal disease, particularly gonorrhoea	71.4
4.	Gastro-enteritis	57.1
5.	Emotional stress & strain - over-anxiety	42.9
6.	Common cold, catarrh, headache and cough	42.9
7.	Sleeplessness	42.9
8.	Accidents and injuries - cuts, sprains, abrasions	28.6
9.	Upper respiratory tract infection	28.6
10.	Virginitis	28.6
11.	Drug addiction	14.3
12.	Eye trouble	14.3
13.	Appendicitis	14.3
14.	Pile	14.3

On the basis of the health problems identified among the students the University health personnel who responded were asked to recommend measures for improving students' health or solving students' health problems. The following were recommended:

(a) Healthful University Living Environment:
   (i) The students need improved, health living conditions e.g. improved hall of residence facilities - ventilation system, water supply, toilet facilities, and other facilities necessary for healthful living.

(ii) Equally important is the need to expand the staff clinic at LUTH and the Health Centre at Akoka, and to better equip the University Health Centres with adequate and quality health facilities, services and personnel.

(iii) There should be more effective measures of exterminating mosquitoes.

(iv) The University public health service section could still improve its efficiency by supervising the removal of the garbage cans more regularly and by overseering general cleanliness of the surroundings of the University campuses.

(b) Food and Nutrition: The students need good food with adequate vitamins, foods prepared and served under hygienic conditions.

(c) Family life and sex education: The students need advice and total guidance in family life and sex education. The high incidence of V.D. even makes this more urgent than can be ever thought of.

(d) Emotional and social health: The students, male and female, need regular lectures on emotional and social health throughout their university career; evidence of increase in this problem is becoming obvious.

(e) Physical health: The students need regular lectures on physical hygiene because there has been no significance evidence to show that most of the students have got any profitable background in physical health education. Lectures apart, every student should be encouraged to take part in formal physical activities, particularly in sports, games and a host of recreational activities which the university must provide as early as possible.

(f) Health education: All students should be health-educated in order to improve their health knowledge, attitude and practices in the University and for after-University living.

Discussion on Findings

There is a close correlation between the major health needs and problems which the students and the health personnel identified.

5(a) Emotional and Social Health Problem

From the complex nature of emotional stress and strain, it can be said that emotional problem and malaria top the list of the students' health problems according to the health personnel. The emotional aspect of the problem is reinforce by what the students identified.

As shown in Table I, emotional and social health topped the list of problem areas for male and female students. A further analysis of the expressed concern of the students showed that the females expressed more concern and interest about emotional and social problems than the male students. This

finding, however, does not necessarily suggest that the females have more emotional and social problems than the males. In the choice of friends, the males registered more concern and problems than the females, a concern that may mean that the males generally found it more difficult to make friends with the opposite sex than the females. Personal interviews revealed that both male and female groups suffered maladjustment in their early years at the University.

(b) Family Life and Sex Education Problem

Venereal disease is the second problem on the list according to the health personnel.

The male and female expressed grave concern about "Family Life and Sex Education". However, further analysis of the findings revealed that the females generally expressed greater and graver concerns than the males about such specifics as sex education for healthy living, crucial issues in dating, preparation for parenthood, and child and maternal health.

It is interesting to note that more males expressed concern about "Life Partner" than females in their first years, and the females expressed more concern about it than males in their last years in the University. What was discovered was that the boys' enthusiasm for married life tapered out with their age while that of the girls increased. Personal interview revealed that generally the boys never took marriage seriously while they were at the University. It was a great ordeal for many ladies to leave the University without assured "boy-friends" for " life-partners".

The effect of the concern for "life-partner" increases the emotional and social health problems among the students; in the first years among the boys and in the last years among the girls.

Although there was competition for "boy-friends" and "girl-friends" as the case may be, there was a general attitude of distrust toward each other by the boys and girls but more so by the girls; and distrust is often marked by the way girls withdraw from the many social activities involving the boys. This attitude is clearly marked in the way the two groups attacked each other in a number of ways, particularly through the pen as usually shown in such publications as The Scorpion, The Hook, The Mirror, The Viper, The Bullet, The Crab. In most instances, the volley of attack was directed to the female who usually showed an air of extreme helplessness and vulnerability.

Notwithstanding the open competition, boys often declared: "I can't marry any of these acada girls; they are flirts; they run after money; I have seen and known enough of these girls; they can't stay with one man for long; acada girls are no good but for fun." Many girls would say: "I prefer to remain single for ever than to marry any of these

flirts; most of the boys do not see any difference between fun and sex; I can't even marry my classmates; most boys are too sexually aggressive for us; many of the boys are mainly out to sex-sample us without commitment and then leave us in the lock; I prefer to have my boyfriend not in the same University; I prefer to have fun with people outside the University ...."

A lady, after saying "I will marry when I meet the right man", declared with emotional tone: "But how will people take it if after graduation I can't say - 'this is my boy-friend?' What is the value of my academic career without marriage in our society and culture? My second junior sister has had three children. What of me? Only certificates!

Here is a manifestation of socio-cultural pressure on the ladies over family life, marriage in general, and children rearing in particular. The emotional problem which attends such an unfulfilled socio-cultural need is heavy on the victims both boys and girls, but more so girls.

(c) Communicable Diseases and Environmental Hazards

Problems of malaria, gastro-enteritis, cold, catarrh and headache, and accidents and injuries as pointed out by the health personnel are closely related to the problems of prevention and control of communicable diseases, community-environmental health hazards, and general living conditions at the University.

(d) Stimulants and Depressants

(i) Indian Hemp: Although only 3.7 per cent of the respondents indicated that they smoked Indian Hemp, the percentage is nonetheless significant because it could easily influence many more students in a matter of months. Therefore the little percentage of the smokers should not be allowed to trick the University authority to feel that the problem is insignificant because the after-effect could be very serious for the student body politic and discipline at the University as a whole.

(ii) Like Indian Hemp, the taking of LSD by a few students could have a very serious effect on both students health and University discipline, even though only 6.7 per cent of the respondents indicated that they had heard of students of the University who engaged in taking of LSD.

(iii) Alcoholic Drinks: 54.1 per cent of the respondents indicated that they usually drank alcoholic drinks. This percentage is very significant for health reasons.

(iv) Cigarette Smoking: 52.6 per cent of the respondents indicated that they smoked cigarette. With the indication that most of the victims of cancer of the lung are known to be smokers, it should be taken as serious, the indication by 52.6 per cent of the respondents that they were smokers.

(v) Sleeping Drugs: 34.1 per cent of the respondents indicated that they took drugs or pills to send them to sleep, while 37.0 per cent of them said that they took drugs or pills to keep them awake. These percentages are significant enough to adversely affect the health of the students. The consumption of sleeping drugs must not be allowed to continue unchecked.

Students took sleeping drugs for two reasons: to keep them awake to do their assignments and other unfinished academic work due to over-crowded timetable, and to make them sleep, that is, to counteract the effects of sleeplessness when they want a good rest. It was discovered that apart from pressure of work, many students took drugs to keep them awake in order to finish the work that has accumulated as a result of procastination and not necessarily because of over-crowded timetable or lack of leisure hours.

(vi) Brain Tonics: 4.4 per cent of the respondents indicated that they used brain tonics. Though this percentage may look insignificant, the influence which the addict may wield over other students may be so great as to win a number of adherents in no time. The efficacy of the known and so-called brain tonics is in doubt, and the possible damage to the brain of the affected may be serious. Consequently, the practice must not be allowed unchecked for the sake of the health of the addict.

(c) Miscellaneous

(i) Self-Medication: 69.6 per cent of the student respondents showed that they engaged in self-medication.

It was indicated that self-medication was more practised among girls than among boys. Personal interview with the girls revealed that:

(1) many girls were shy over their privacies particularly if they had to go to male doctors;

(2) many girls feared being admitted into the hospital; and

(3) certain girls had had or have been told of others experiences about male doctors who went about chasing girl clients.

Number 2 reason seems to be a consequence of number 1. The fact of shortage of medical personnel and public health facilities, and the numerous and uncontrolled drug stores and pharmacists might have further encouraged the high per cent of students (male and female) who engaged in self-medication (which often carries with it self-diagnosis) on health, it is a matter of grave concern to note that 69.6 per cent of the student respondents confessed that they engaged in self-medication.

(ii) Delayed Reports of Sickness

It was discovered that more girls delayed sickness reports than boys. Further investigation revealed that the girls seemed to show more endurance than boys generally. However, a critical review of the attitude of the girls to delayed reports suggests that the reasons given under self-medication are also behind delayed reports.

(iii) Pregnancy out of Wedlock

It is significant that the students, both male and female groups, observed that pregnancy out of wedlock was a common practice. On the whole, 50.0 per cent of the males and 48.8 per cent of the females, or 49.6 per cent of the respondents held this view. If this observation was valid, than something is wrong with the women in terms of man-women relationship or with the sense of direction of the women. And some positive steps must be taken by the University authority to rescue the situation.

(iv) Incidence of Abortion

From the observation of the student respondents, incidence of abortion is serious. 78.9 per cent of both male and female groups observed that abortion was common among the students; of this percentage, 77.1 per cent of the males and 82.9 per cent of the females made the observation. Since 82.9 per cent of the females made this observation, it could be assumed that abortion should be a matter of serious concern to the University authority particularly with regard to what it could and should do to reduce the incidence among the students.

(v) Unwedded Mothers Problem

Incidence of unwedded mothers was observed by 31.6 per cent of the students (33.7 per cent of the males and 26. 9 per cent of the females) as a common occurrence among the females. Such an observation is serious enough to warrant the attention of the University authorities about what they could do to arrest this problem.

(vi) Interpersonal Relational Problem at the University

For healthful University living, the observation of the 52.6 per cent of the student respondents that the human relations between lecturers and students was not cordial is significant. It requires further investigation to verify this claim and the University authority and particularly the lecturers as individuals and as a body should do something positive to rescue the situation. This kind of observation may have adverse effects on the productivity efficiency and happiness of the students. The staff-student human relations must be reviewed accordingly and improved.

Also the observation by 75.2 per cent of the student respondents that the student-authority relationship was not cordial is equally significant. It calls for a wholesale reappraisal of the existing relationship so that positive change could be effected. After all is said and done, cordial relationship between the communicatee and the communicator, between student and authority, is a prerequisite for meaningful communication.

Also equally significant is the observation by 42.1 per cent of the students about lack of cordial relations between them and other University staffs - kitchen, dining hall and hostels. It calls for a review for positive change.

(vii) Western Medicaments Versus Native Medicaments and Students' Predicaments

14.8 per cent of the respondents indicated that they usually visited the native doctors, prophets or Mallams for consultation and care. Personal interview with some students revealed that 14.8 per cent was a conservative figure of those who always went to other health personnel besides the western oriented health personnel (viz, medical doctors, nurses, pharmacists, etc.). It was confirmed that many students commuted freely between the hospitals, health centres, clinics etc. on the one hand, and the shrines, private healers and prophets on the other. The impression was got that to a majority of the students, modern hospitals and medicaments were mere additions to traditional ones and not substitutes. As a result, that a student leaving a medical doctor for a native medicine man, and vice-versa, was not regarded as contradictory behaviour.

The use of other health services and products besides those of accredited Western health and medical personnel is very revealing even though the percentage of students involved, as indicated, seems to be insignificant. If 14.8 per cent of the respondents in a University setting could confess that they usually visited native doctors, prophets and mallams, it becomes necessary to further examine why students engaged in this practice.

According to the students they knew which health problems they took before the medical doctors and which before the native medicine men and other consultants. The impression was given us that greater motivation to go to non-medical personnel is due to the utmost urgency, concern, sympathy, and privacy which were accorded their complaints.

(viii) Student Unrest as a Health Problem

Student unrest largely mirrors a breakdown in the line of communication between students and authorities. From the students' point of view, a breakdown in the line of communication between them and the University authorities is responsible for what people often call "student unrest".

They said that the way most of their complaints were treated, particularly on general welfare e.g. accommodation, health services, foods, recreational facilities and other unsatisfactory living, and environmental health conditions at the University was one of "irresponsible people asking for too much and none shall be given them". This attitude affects adversely the mental health of the students.

As a group of students put it: "We have needs which we earnestly put before the authority from time to time. We are frustrated and disappointed when we are told that our needs are not needs; and we are ordered to accept what the authority regards as our needs. Many of us are not all that young and are not as irresponsible as the authority thinks. We know our needs. For instance, we know when a room is over-crowded,and the effect on our health and our studies; we know when the light in our room is not good for reading; we know when there are no toilet rolls ; we know when we take sandy rice; watery soup, and stale, rancid bread; we know when there is no water supply for bathing, washing and flushing the toilet; we know when there are not enough chairs in the classroom; we know when the surrounding of our hostel is dirty and stinking .... To say that we don't know what we need, to say the least, is tantamount to a flagrant disregard for our needs, feelings and problems by the authority".

It has been suggested, particularly in psychology, that when people are unable to satisfy their physical, emotional and social needs,then there occur frustration, aggression, hostility, apathy, rebellion, unrest, etc. and other manifestations of emotional disturbances. If the interpersonal relation between student and authority is strained, then there is the likelihood of a breakdown in the line of communication between them; and fear, suspicion, distrust, misunderstanding, hostility, prejudice and a host of other crisis phenomena in interpersonal relations may fill the gap created by the breakdown in the line of communication between students and authority.

(f) Physical and Mental Health Complex

From the list of students' health needs and problems as identified by the health personnel, psycho-somatic concepts make difficult the separation of physical and brain fatigue from emotional stress and strain; either could lead to or manifest the other.

Physical and brain fatigue may in addition to the suggested reasons by health personnel also be a result of over-work of students by lecturers or by the students themselves. It may also be due to just students' anxiety about how to cope with over-crowded timetables or of how to "make the grade"; it could even be due to poor living conditions in the hostels; and, finally, it may be due to students' neglect of regular physical exercises and games.

Restlessness of students over financial problems, heavy course-load, poor performance in their studies, wrong choice of discipline, insecurity over boy-girl relational needs, over-anxiety over what the future holds in store for the students, and general problem of adjustment at the University may lead to sleeplessness. Restlessness and sleeplessness are symptomatic of nervous tension or emotional disturbance. The restless and the sleepless students are bound to develop physical and brain fatigue.

The emotionally disturbed students may find refuge and consolation in drugs. Such students also are more likely to get involved in accidents because of a distorted sense of judgment which characterizes their behaviour.

From a critical analysis of the students' health problems as identified by the health personnel, as well as by the students themselves, emotional and social problems seem to be a fruitful mother of many of the problems.

There is, therefore, little wonder that emotional and social health problems top the list of the students' health needs and problems according to the students.

That the problem of family life and sex education is even a major contributory factor to the emotional and social health problem is supported by the type of complaints which the author received from time to time from the students both male and female. The general trend was restlessness, sleeplessness, stomach troubles, frustration, general weakness, aggressiveness, confusion, unhappiness or minimal productivity, due to failure to secure a date, boy/girl friend, hostility of opposite sex, boy-friends who were overly aggressive and made girl friends miserable, over-jealous boy/girl friends, "deputizing" wives or husbands, and the like.

On the whole, from the findings and personal interviews physical health seems not to be a major problem to most of the students. Carelessness of few students about personal cleanliness and safety precaution only keep them at the health centres for a few hours or couple of days. Physical vigour characterizes most students' appearance, and their strictly physical health problems are temporary rather than chronic or disabling. Generally, the students look fresh, robust and strong. This experience with or account of students' health status lends weight to the fact that most of their problems are mental health rather than physical health. However, as already shown, the two cannot be strictly dischotomized because many illnesses or health problems are psychsomatic.

When and where mental health becomes a threat to healthy living, it is the mind rather than the body which requires preventive and curative medicine more.

(g) The Challenges of University Life

The complex challenges of life at the University are over-whelming to the average students. The challenges have both negative and positive effects, as shown in this study, on the students. The way the students react to the challenges depends largely on their own total upbringing-home community, and school backgrounds, as well as the individual's ability in handling particular challenges. By the time students come to the University some are aggressively dependent - they need to be led; a few are already independent - they require little or no direction from leaders; most are in between and betwixt - they can easily fit into either category.

For positive experiences in the challenges the University life offers, most of the students require planned activities. They need counselling and guidance to keep them physically, emotionally and socially healthy. They require guidance in how to get along with one-self, how to get along with others, and how to adjust to challenges of life. In short, they need to be educated for healthy living.

Because mental health poses a big problem to many students, male and female, it constitutes a big challenge to students, lecturers, administrators and health personnel if the University is to accomplish its educational objectives for the students and the nation.

Recommendations

1 Consumer Health Education

In the light of the many health problems indicated in this study, particularly the uses of varieties of stimulants and depressants (e.g. LSD, Indian Hemp, Alcoholic drinks, Sleeping drugs, Cigarette, Brain tonics, etc.), it is recommended that "Education for Consumer Use of Health Services and Products" be aggressively mounted among all students at the University and through public health education. The need to extend such education to the public is because the University is a social institution and the students come laden with social environmental influences to the University. In most cases what they practise at the University is a simple reflection or rehearsal of what is happening around them nationally and internationally.

Because of the limitations that external forces may impose on the educational activities of the University in consumer health education, it is also recommended that the governments of the country should save lives by stemming at their roots the variety of advertisements which negatively motivate students and the public at large to go in for all sorts and conditions of stimulants and depressants and other harmful substances. Decrees, edicts or laws could be promulgated against advertisement of listed dangerous drugs on any of the national mass media (Radio, TV.S., Press, etc.) as well as by hawkers and other quacks.

2. Family Life and Sex Education

Because of the increasing incidence of venereal diseases, unweded mothers, abortion, and concern for security in marriage, it is recommended that "Family Life and Sex Education" be emphasized as part of students' total learning experience at the University.

3. Personal and Community Health

Because of the nature of the health problems revealed by the study, it is recommended that a course on "Personal and Community Health" be made compulsory as part of University requirement for all University students in their first year at the University.

4. Guidance and Counselling

Because of increasing emotional and social health problems with the possible concomitant adverse effects on the academic performances of the students, it is recommended that the University should establish a course on guidance and counselling to take care of this aspect of the students' problems, and guide and counsel on those factors such as employment opportunity, planning for marriage, choice of profession, social adjustment, attitudes toward studies, toward personal problems and toward constituted authority, and the like.

5. Counselling as Part of Health Service

It is recommended that Counselling and Guidance be made part and parcel of the health and welfare services of the students in order to take care of the psychological needs and problems which constitute most of the health problems of the students. Two counsellors or psychiatrists should be added to the list of the health staff: one at the University Health Centre at Akoka and the other at Idi-Araba Health Centre.

6. Improved student-Staff-Authority Relationships

Because of the students' complaints about much needed better and closer interpersonal relations, for a better line of communication between staff and students and students and authorities, and because of the immense problems of misunderstanding which usually follow lack of effective communication under strained relationships between the communicator and the communicatee, it is recommended that formal and informal forums be provided, such as, "Staff-Student Get-Together", "Tea Socials", etc., College by College, faculty by faculty, department by department, and the like, for more regular contacts between these groups outside classroom situations. It is hoped that such forums may help staff members, particularly University Authorities, get to know and understand better the needs and problems of the students, and thereby gain some insight as to how to meet them. Among other advantages that such forums can bring are :

(i) the exact students' needs and problems can be identified

(ii) there will be improved student-staff human relations and consequently by a better communication process

(iii) students will develop a better attitude in terms of trust and confidence in academic and administrative staff and authority

(iv) students will develop a better sense of responsibility for their own good, the good of others, and the good of the total University community

(v) there will be a better chance of solving students' problems through their co-operation and effective participation

(vi) the human relational gap between staff and student is usually filled by prejudices, biases, gossips, mis-communication, suspicion, fear, hostility and other barriers to harmonious relationship between staff and student. Only closer interpersonal relationship can bridge the gap and remove the barriers.

7. Review of Timetable and Teaching Methods

Because of the human elements in physical and brain fatigue as well as in drug addiction, e.g. suggestion that over-crowded timetable and over-enthusiasm of lecturers to pump information into the students at the expense of the best use of leisure, there is need to re-examine the study structure for healthy University living. It is, therefore, recommended that the timetable and teaching methods be looked into with a view to remove the over-crowded periods and course loads with their concomitant stress and strain, and allow for better relaxation for students and better use of leisure in terms of students' self organisation and self-direction for study.

8. Periodical Formal Students' Feedback

The kind of students' feedback which the academic and administrative staff members get at present tends to be delayed, sporadic and relatively unrepresentative. Formal students' feedback is of prime significance in all educational institutions, particularly at the University level.

To speak of the necessity for feedback from the students is not to imply complete validity of student appraisals. I do not propose that the student appraisal should simply be taken at its face value. But at the same time it seems absurb to deny that such expression of student reaction is a highly relevant factor to be taken into account by the academic and administrative staff members in governing their conduct of the activities involving the students' effective participation, welfare and efficiency.

The main purpose of students' feedback is to make available students' reactions both negative and positive to their life and work at the University. The instructors and the administrators have to decide what this information signifies concerning the success or failure of their work with regard to their interaction with the students on academic and administrative matters.

Because the evaluator appraises in the context of his beliefs, values, needs, problems, and expectations, it is normal that if two people are to collaborate successfully on the same issue, they must state categorically their needs, expectations, likes and dislikes. Such openness and frankness is a prerequisite for the interacting people to reconstruct their attitude and actions in order to meet the needs, interests and expectations of each other.

In short,formal students' feedback is a strategy for change among the members of staff in their responsibility for the students' total physical,emotional, and social welfare - health.

9. Health and Physical Education Department

In order to face more realistically the physical, emotional and social health needs and problems of the students and thereby ensure conditions for maximizing students' efficiency for personal and national development; and because of the increasing national concern for health and physical education in the educational institutions and communities, it is recommended that a Department of Health and Physical Education be established either at the College of Education or at the College of Medicine. This Department will provide opportunities in health and physical education for all students, and also give interested students the chance to opt for health education, physical education, or health and physical education as a field of study and specialization which will equip them with the health educational skills which they can profitably use in promoting health as professionals and as members of their families and communities.

10. Students Health Council (SHC)

Because of the complex nature of the health problems at the University, and because most of these problems can be solved through improved health consciousness among and effective participation by students, it is recommended that a "Students Health Council" (SHS) - consisting largely of student representatives and some University staff members and public representatives - be established. The SHC will help to plan for an executive total student welfare or health programme in co-operation with the University authorities and Health Centres without prejudice to the role of the two bodies in providing for the welfare of the students.

The Students' Health Council will be the forum and clearing house for all matters and committees which affect

the welfare of the students. The need to create SHC and bring most of the committees under SHC is brought about by the fact that they deal with aspects of students' total health in terms of physical, mental, emotional and/or social needs and problems. The health of the students in its totality best describes the roles of all the committees.

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Published by

THE COMMONWEALTH SECRETARIAT

To be purchased from

THE COMMONWEALTH SECRETARIAT

Publication Section

Marlborough House,

London, SW1Y 5HX.

ISBN 0-85092 - 065-5

ISBN 978-1-84859-201-8

9 781848 592018