Annotated List of Studies in Perception in Varied Cultural Groups within the Commonwealth

1. ABIOLA, E.T.

Nigerian children's pictorial representation on objects in their environment Teacher Education 1967, Vol. 7, No. 3, pp. 196-201.

Nine hundred unselected Nigerian children between 6 and 15 years of age drew various objects in the classroom; common observable characteristics were noted. There is a developmental trend in African children's drawings as with European, but it is masked by inadequate exposure to pictorial representation. The idea of differences in orientation between African and European is invalid. Given that an analytic approach becomes necessary in the community, then adequate training and adequate exposure to representational materials, should eliminate the flat didactic representations supposedly basic to the African.

2. BEVERIDGE, W.H.

Racial differences in phenomenal regression British Journal of Psychology 1935, Vol. XXVI, pp. 59-62.

Forty nine West African students studying drawing at a training college in Ghana (Gold Coast) were tested by the same procedure used by Dr. R.H. Thouless and results compared. West Africans have a higher index of phenomenal regression than Europeans which explains some peculiarities of their drawings.

3. BEVERIDGE, W.H.

Some racial differences in perception British Journal of Psychology 1938, Vol.XXIX, pp. 57-64.

In finding out if African training college students in Ghana show a greater tendency than English students to phenomenal regression in the perception of brightness and whiteness, the author used material of Dr. R.H. Thouless to test 40 students. He found a greater tendency towards phenomenal regression than did Dr. Thouless in Scotland. It is reflected in African Art. Africans make less use of visual clues.

4. BIESHEUVEL, S.

Psychological tests and their application to non-European peoples The Year Book of Education, Evans Bros. Ltd., 1949, pp. 87-126.

5. BONTE, M.

The Reaction of Two African Societies to the Müller-Lyer Illusion The Journal of Social Psychology 1962, Vol. 58, pp. 265-268.

Using the form of the Müller-Lyer apparatus devised by Herskovits, the experimenter sought to determine whether differential susceptibility is affected by the mode of presenting the illusions. He found that when comparing 400 Bashi and 72 Europeans, the Africans were significantly less susceptible and more variable than the Europeans.

6. BOWDEN, E.A.F.

Perceptual Abilities of African and European children educated together The Journal of Social Psychology 1969, Vol. 79, pp. 149-154.

Tests of visual discrimination were devised and administered to 200 children between nine and sixteen years of age, in four racially integrated schools in Kenya. There were small differences in perceptual aptitude. These were attributed to the small remaining educational and cultural advantages of the Europeans over their African counterparts.

7. BRADLEY, D.J.

The ability of black groups to produce recognisable patterns on the 7-Squares test Journal of the National Institute for Personnel Research 1960, Vol. 8, pp. 142-144.

Ninety one schooled and eighty illiterate adults from diverse tribal groups in Southern and East Africa were asked to produce elephants using the 7-squares material. Neither educated nor uneducated groups were able to do this.

8. COWLEY, J.J. & MURRAY, M.

Some aspects of the development of spatial concepts in Zulu children Journal for Social Research 1962, Vol. 13, pp. 1-18.

The administration Piaget and Inhelder's tests of spatial development were administered to a sample of 80 Zulu and white children between 5 and 12 years of age. The scores of the Zulu children are consistently below those of the white children. Topological, projective and euclidian relationships emerge at a later age in the Zulu than they do in the white children. Both groups follow the same sequence of development.

9. DEREGOWSKI, J.B.

Difficulties in pictorial depth perception in Africa British Journal of Psychology 1968, Vol. 59, No. 3, pp. 195-204.

Hudson's Pictorial Perception Test and a construction test, shown in pictures, were administered to Central African schoolboys and domestic servants. Sixty subjects in each sample completed the two tests. Though a significant proportion of the 2-D perceivers on Hudson's test built 3-D models, they were distorted. Subjects appeared unable to organize the material presented in the test pictures.

10. DEREGOWSKI, J.B.

Investigation into perception Bulletin of the Institute for Social Research, University of Zambia, Lusaka, Zambia 1966, Vol. 1, pp. 27-30.

One hundred and thirty eight Zambian candidates (school children and domestic servants) were asked to draw what they perceived of test materials. School children perceived in a three dimensional manner more frequently than did domestic servants.

11. DUMINY, P.A.

African pupils and teaching them Publication series No. 34 of National Council for Social Research Department of Higher Education. J.L. van Schaik, Pretoria 1968, Sections E page 65, F page 69 and G page 71.

The Bantu child and the importance of perception are discussed, drawing on research in this area. This is followed by an analysis of abstract thinking and then some comment on the use of audio-visual aids.

12. FRENCH, A.K.

A Background of Non-Reference Makerere Journal (Kampala Uganda) 1961.

The author discusses his observations of the ability of trainee teachers' at Makerere University of East Africa, Kampala, Uganda, to read Western European style diagrams, illustrations, practical instruction manuals. He concludes that their visual frame of reference is different from that of Europeans and this presents serious problems of adaptation to learning from Western style text books.

13. FUGLESANG, A.

Communication with illiterates mimeographed, The National Food & Nutrition Commission, P.O. Box 2669, Lusaka, Zambia 1969, pp. 54.

The first chapter is a theoretical discussion on the nature of the communication process. In chapter II he describes how he tested 75 illiterate adults, using perception tests in the style of Piaget and pictorial tests of degrees of realism. Then follows further analysis of the basic problem of communicating with non-literates. He concludes that certain basic symbol processes of conservation items are lacking and that certain details are necessary for recognition of pictorial representations.

14. HAWARD, L.R.C., & ROLAND, W.A.

Some intercultural differences on the Draw-a-man test: Goodenough Scores Man. June 1954, pp. 86-88.

Thirty Nigerians and a hundred European adults were tested individually with the Goodenough material. The authors found the Nigerian samples scored low. They account for this apparent depression of mental age by the role of the tribal outlook and concreteness of mentation in effecting this difference. Their viewpoint is challenged in correspondence in the journak (Man) in September 1954 by four different correspondents.

15. HAWKRIDGE, G.D.

Evidence from Programmed Learning research in Central Africa National Society for Programmed Instruction Journal, Vol. VI, No. 8, October 1967, pp. 10-15.

Some of the work on programmed learning indicates that pupils attending African schools have difficulty in forming concepts about the representation of three dimensional objects in two dimensional drawings. His conclusions are based on validations of the programme. Simple Contours devised for pupils in secondary schools in Rhodesia.

16. HAWKRIDGE, D.G.

Programmed learning and problem of acculturation in Africa Aspects of Educational Technology, Vol. 2 published by Methuen & Co. Ltd., London 1969, pp. 317-325.

In this paper (contributed to a conference on programmed learning and educational technology, Glasgow 1968) the author describes the potential of programmed learning to improve pictorial perception and scientific thinking in primary schools in Africa. The difficulties that 600 Central African

secondary school pupils had in dealing with two questions involving pictorial depth perception in a programmed learning text on Simple Contours indicate the need for compensatory education in African schools.

17. HAWKRIDGE, D.G., & MICHIE, W.D.

Simple Contours University of Rhodesia, Salisbury 1966.

A linear programmed text devised to teach African pupils in the first year of secondary school to read simple contour maps.

18. HECTOR, H., DLODLO, M.S., & du PLESSIS, C.F.

An experiment on silhouette recognition and projection with Bantu children of different ages Journal of the National Institute for Personnel Research 1961, Vol. 8, pp. 195-198.

Using modified 7-Squares test, the ability of 295 Bantu children to recognise representational silhouettes was shown to improve with rise in age, but the readiness to "project" objects into non-representational silhouettes decreases with rise in age.

19. HOLMES, A.C.

Health Education in Developing Countries Nelson 1964, pp. 190.

The author suggests ways of teaching health, basing his guiding principles on his observations, experiences and investigations in East Africa. In Chapter four, he is concerned with pictorial aids to teaching good health; the author quotes from his own studies of pictorial perception in Kenya and indicates the application of his findings to the design of visual aids for teaching health.

20. HOLMES, A.C.

A study of understanding of visual symbols in Kenya Overseas Visual Aids Centre 1963, pp. 32.

The ability of people in and around Nairobi and other townships to interpret visual symbols was tested. About 1500 replies were analysed. Compression of a process into one or two visual statements leads to misunderstanding. Too much detail makes correct interpretation difficult, as does enlargement. The lower the educational level, the more literally will symbols be interpreted.

21. HUDSON, W.

Colour v monochrome in a demonstration film used to administer performance tests for the classification of African workers Journal of National Institute for Personnel Research 1958, Vol. 7, p. 128.

A black and white film is normally used to help African industrial workers grasp the essential working principles of each item in the occupational classification performance tests. A colour film of one of the tests was made and tested on 147 candidates. There was no difference in mean performance of two sample groups. Colour is unnecessary.

22. HUDSON, W.

Pictorial depth perception in Sub-cultural groups in Africa Journal of Social Psychology 1962, Vol. 52, pp. 183-208.

A series of tests, consisting of outline drawings and a photograph of a

model scene, were constructed so as to depend perceptually on the cues of object size, overlap and perspective. These were applied to eleven sub groups in South Africa to test their ability to perceive three dimensionally. The groups differed in educational level and cultural environment. The conclusion is that formal education, which had been hypothesized as decisive, has only a contributive role in the development of pictorial depth perception and is subordinate to other cultural factors. Pictorial depth perception is learned but the process can be retarded or prevented by cultural environment and intellectual endowment.

23. HUDSON, W.

Pictorial perception and educational adaptation in Africa Psychologia Africana 1962, Vol. 9, pp. 226-239.

This paper was first contributed to the C.S.A. meeting of specialists on educational adaptation to African conditions in Lagos, 1960. The author reports on his studies of depth perception and concludes that the implication for the teacher is that a critical approach is necessary when training methods which have worked well in one cultural context are applied to another, different cultural group or sub cultural group.

24. HUDSON, W.

The study of the problem of pictorial perception among unacculturated groups International Journal of Psychology 1967, Vol. 2, pp. 90-107.

A survey of the recent work done in Africa and elsewhere on the perception of pictorial material with a view to summarizing the findings and relating them to the communication problems of the educator. The author's conclusion is that provided pictorial material is appropriately designed for particular groups and used as an aid to communication it is worth the cost in time, effort and money.

25. JAHODA, G.

Geometric illusions and environment: a study in Ghana British Journal of Psychology 1966, Vol. 57, pp. 193-199.

Two hundred and thirteen Ghanaian subjects in different terrain were tested to investigate the Segall et al hypothesis that geometric illusions are a function of environment and terrain. The Müller-Lyer hypothesis was confirmed but not the Vertical-Horizontal.

26. McFIE, J.

The effect of education on African performance on a group of intellectual tests British Journal of Educational Psychology 1961, Vol. 31, pp. 232-240.

On entering technical school, 26 Ugandan boys were given a series of intelligence tests which included pictorial and constructional material. They showed differences from English boys in their inaccurate orientation of drawn and constructed designs. After two years' training, significant increases in scores were noted suggesting that the abilities that are poorly developed under their cultural conditions may be increased by appropriate educational methods.

27. MORGAN, P.

Observations and findings on the 7-squares test with literate and illiterate black groups in Southern Africa Journal of the National Institute for

Personnel Research 1959, Vol..8, pp. 44-47.

Fifty clerks and 50 illiterate mine workers were asked to arrange the 7-squares material in any way that was pleasing and then to state what the shapes represented. Neither group was able to make a recognizable design, but the literate group made more orderly designs.

28. MORGAN, P.

A study in perceptual differences among cultural groups in Southern Africa using tests of geometric illusion Journal of National Institute for Personnel Research 1959, Vol. 8, pp. 39-43.

Using the Herskovits' material, she tested the illusions among illiterates from two tribal groups (70 & 46) and compared their responses to those of a white group (44). Differences were found but they were inconsistent. More research is needed before an hypothesis can be formulated.

29. MUNDY-CASTLE, A.C.

Pictorial depth perception in Ghanaian children International Journal of Psychology 1966, Vol. 1, pp. 290-300.

Using four pictures from Hudson's Depth Perception Test, 122 children who had attended primary school from their fifth year, were studied. Results comparable to Hudson's were obtained and the conclusion is that the cultural stimuli are critical for the development of pictorial depth perception.

30. NEIJS, K.

Literacy primers. Construction, evaluation and use Unesco 1966, pp. 113.

Unesco. Simple reading material for adults: its preparation and use Unesco 1963, pp. 95.

31. POOLE, H.

Restructuring the perceptual World of African children Teacher Education in New Countries 1969, Vol. 10, No. 2, pp. 165-172.

In order to test if the spatial abilities of African children could be substantially modified through communication in a suitable environment, four ten-year old Nigerian boys from a semi-rural community, spent 38 sessions (during 8 weeks) of about 1 hour's duration, playing with and talking about spatial enrichment materials. The results suggest that such modification could occur, especially if younger children are given concrete social communication in an enriched environment.

32. PRICE-WILLIAMS, D.R. (ed)

Cross-cultural Studies: Selected Readings Penguin Books, Middlesex 1969, pp. 384. Excerpts from previously published papers are given in five parts. Part III Visual Illusions and Part IV, Pictorial Depth Perception are of especial interest.

33. SEGALL, M.H., CAMPBELL, D.T. and HERSKOVITS, M.J.

The Influence of Culture on Visual Perception Bobbs-Merill, Indianapolis 1966, pp. 268.

This describes work, spread over six years, testing the responses of culturally diverse groups to four optical illusions - the Müller-Lyer figure, the Sander parallelogram, and two forms of the Horizontal-Vertical figure.

Each respondent had to judge in 39 cases which of two lines was longer. The responses were not uniform. Differences arise from factors in the environment which may or may not be related in part to technological development.

34. SHAPIRO, M.B.

The rotation of drawings by illiterate Africans Journal of Social Psychology 1960, Vol. 52, pp. 17-30.

The results are reported of the performance of 20 illiterate Africans and 17 educated Africans (in the then Central African Federation) on a shortened form of the Drawing Rotation Test, compared with low and high grade, normal and brain damaged English people. The illiterate Africans rotated significantly more than any other group, in accordance with precise laws of organization.

35. SHAW, B.

Visual Symbols Survey. Report on the recognition of drawings in Kenya African Medical and Research Foundation 1969, pp. 54.

Fifty seven drawings were prepared by Alan Holmes on cards. These were tested on 1123 urban people in Kenya, no one person being asked to recognise more than 18. Later, a rural Survey covered a further 377. Age, sex and education were noted. Another set of 17 drawings of objects grouped into composite pictures was tested on 1352 children. The results were inconclusive; for example, putting objects into a context sometimes increased and sometimes decreased the chances that they would be recognized. It does appear, however, that schooling increases ability to recognize drawings of objects.

36. SCHWARTZ, P.A.

Aptitude tests for use in the developing nations and Development of manpower screening tests for the developing nations American Institutes for Research, Pittsburg 1961 & 1964.

Both these papers discuss the use of the Three Dimensional Visualization Test. The latter includes the Boxes Test used by Schwartz, MacArthur, Nicole and others in nine African countries in selction procedures designed to test for technical skills.

37. SCHWITZGEBEL, R.

The performance of Dutch and Zulu adults on selected perceptual tasks The Journal of Social Psychology 1962, Vol. 57, pp. 73-77.

A series of visual and cognitive tasks was presented to young Zulu and Dutch South African adults. The greatest difference was the difficulty the Zulus had in locating an embedded geometric figure. Even relatively simple processes may be affected by environmental conditions and some of these perceptual skills may not be re-acquired even after extensive education.

38. STACEY, B.G.

Cultural basis of perception Science Journal, December 1969, pp. 49-52.

The author draws on some published researches of J.L.M. Dawson, J.B. Deregowski, W. Hudson, A.C. Mundy-Castle, M.H. Segall and M. Wober, to argue that the mannner of perceiving is culturally determined.

39. SUCHMAN, R.G.

Cultural differences in children's color and form preferences The Journal of Social Psychology 1966, Vol. 70, pp. 3-10.

Investigating color versus form preference of 120 Moslem Hausa children in Zaria, Nigeria, the author found that preferences for color over form continued into adolescence. It is suggested that a study of perceptual preference could throw light on cultural differences in cognitive processes. Color preference is not an isolated bit of behaviour.

40. du TOIT, B.M.

Pictorial depth perception and linguistic relativity Psychologia Africana 1966, Vol. 11, pp. 51-63.

This is a discussion of Dr. W. Hudson's tests regarding the ability of Bantu to perceive three dimensionally. The author suggests that one of the explanations for Hudson's results is linguistic relativity. Language can be a screen for cognition. Language influences what the speaker perceives and the way in which he perceives it.

41. UNESCO

Group Training Scheme for Fundamental Education. Report of an Experiment to Assess villagers' understanding of Book Illustrations mimeographed 1954 in Mysore, India by Unesco Group Training Scheme.

42. VERNON, P.E.

Intelligence and Cultural Environment Methuen & Co. Ltd., London, 1969, pp. 237.

Cross cultural studies are described in Chapter V. These include accounts of testing for a variety of skills and aptitudes, including perceptual, among Jamaican, Ugandan, Canadian-Indian and Canadian-Eskimo school children. Variety of perceptual skills are displayed; for example, Eskimo children have high spatial aptitude but Ugandans do not. Reasons for the differences are discussed. Perceptual development seems to depend on social norms, education and acculturation.

43. WALLMAN, S.

The communication of measurement in Basutoland Human Organization, Fall 1965, Vol. 24, pp. 236-243.

Many measurements are meaningless even to agricultural demonstrators and extension workers. All concepts, including the simplest technical ideas, must be translated and interpreted. Posters are often misunderstood for lack of such interpretation.

44. WINTER, W.

The perception of safety posters by Bantu industrial workers Psychologia Africana 1963, Vol. 10, pp.127-135.

The effectiveness of the message in 6 safety posters to 270 Bantu workers was studied by interview and questions through an interpreter. Urban Bantu understood better than men from rural environments. Educational level correlates with comprehension. Two-scene posters were confusing as were representations of depth and of moment. When the behaviour depicted did not accord with Bantu tradition, the poster was not understood.

Additional References used in the text

1. BRINKMAN, E.H.

Programmed instruction as a technique for improving spatial visualization Journal of Applied Psychology 1966, Vol. 50, No. 2, pp. 179-184.

The author investigated the feasibility of using a specially designed self-instructional program to teach visualization of space relations by administering a 505 item program to 27 eighth graders. A significant improvement was found.

2. BUSINESS RESEARCH LTD.

Aesthetic perception of villagers in North East Thailand United States Operations Mission to Thailand, pp. 228.

A Bangkok firm Business Research Ltd. carried out a study to develop a methodology for obtaining data on aesthetic perception in N.E. Thailand. More than 1000 villagers were interviewed about their assimilation of prepared visual materials. Rapport with villages is best gained through an extended stay; knowledge of local dialect is essential, and villagers could not rate materials on more than a three point scale. Children's drawings showed that they use distinctions of dress more than anything else to distinguish people of different occupations and status.

3. COLBORNE, H.V., & SHEPPARD, D.

Testing a poster for infants Safety Education Summer 1966, pp. 8-11.

Fifty five children aged 5-7 were interviewed and tested in two groups with two designs for a poster. They failed to get the message and it is suggested that presentation in the form of a series of pictures may make understanding easier for the children.

4. FONSECA, L., & KEARL, B.

Comprehension of Pictorial Symbols: an Experiment in Rural Brazil College of Agriculture, University of Wisconsin 1960, pp. 28.

Comprehension of a number of pictorial symbols was tested among a group of people aged between 8 and 19 years in the state of Minas Gerais, Brazil, marked by highly traditional routine of living and a general lack of educational opportunity. It was found that unless symbols are realistic and of known objects they are not recognized. Complex statements are not understood. Education sharply affects ability to comprehend.

5. SPAULDING, S.

Communication potential of pictorial illustrations Audio Visual Communication Review Winter 1956, Vol. 4, No. 1, pp. 31-46.

An evaluation was carried out in three areas of Costa Rica and three areas in Mexico to test the overall communication potential of twelve of the illustrated booklets prepared for new literates by Pan American Union's Latin American Fundamental Education Press. Ninety eight people were tested with a total of 2138 separate illustrations. It was found that only realistically portrayed objects of which the readers had had experience, arranged in as simple a way as possible were understood.

6. SPAULDING, S.

Research on Pictorial Illustration Audio Visual Communication Review Winter 1955, Vol. 3, No. 1, pp. 35-45.

The author reviews selected research in pictorial illustration. He draws generalizations of importance to educators.

7. VERNON, M.D.

The psychology of perception Penguin Books 1962, pp. 265.

A collated study of what and how we perceive. Special emphasis is given to interpreting the findings of research and showing their application to teaching situations.