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- Effectiveness of The Learning Potential Assessment
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- Special Education in Papua New Guinea: An Overview
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- Perception of the Capabilities and Personality of a
Blind Interviewer by Hong Kong Chinese
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- Special Education Strivings in India: Recent Impressions

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MODIFYING ATTITUDES TOWARD PERSONS WITH DISABILITIES: A REVIEW OF REVIEWS

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- *Fifteen reviews of primary research pertaining to changing attitudes toward persons with disabilities were located by an extensive literature search. With the primary research report as a model for reporting reviews of research, questions developed from Jackson (1978, 1980) and others were used to critically examine the reviews in terms of their methodological soundness, their contributions to knowledge, and the applicability of their findings. Methodological weaknesses noted in most reviews, and common to narrative reviews of research, seriously weakened the validity of their findings. Suggestions for future reviews in this area are included.*

Since the 1950's, hundreds of investigations of methods for enhancing attitudes toward persons with disabilities have been reported. This substantial body of research is comprised of studies of a number of interventions in a wide variety of settings with samples from diverse populations. The extent and diversity of this research makes it difficult to discern the effectiveness of different attitude

change methods. Integrative reviews are important to assist researchers, practitioners, and educational policy makers in identifying methods for modifying attitudes toward persons with disabilities that merit further study or that might be used with particular settings and populations.

In light of the amount of research, attesting to the general interest in the effects of attitudes toward persons with disabilities, there has been a remarkably small number of attempts to summarize and synthesize the findings in reviews. A computer-assisted search of *ERIC*, *CEC Abstracts*, *Dissertation Abstracts*, *Index Medicus*, *Psychological Abstracts*, and *Social Science Research* using broad descriptors, along with a manual search of bibliographies and reference lists in over 600 research reports and numerous other publications pertaining to attitudes and the disabled, yielded the titles of only seven reviews (Anthony, 1972; Donaldson, 1980; Haddle, 1974; Horne, 1985; Sandler & Robinson, 1981; Towner, 1984; Westwood, Vargo & Vargo, 1981) devoted to this literature. An additional eight reviews (Alexander & Strain, 1978; Chubon, 1982; Harth, 1973; Horne, 1979; Johannsen, 1969; Pulton, 1978; Rabkin, 1972; Segal, 1978) that contained brief sections on the topic were also identified.

The purpose of this article is to examine these reviews critically in terms of their methodological soundness, their contributions to knowledge, and the applicability of their findings.

JUDGING THE QUALITY OF REVIEWS

Conducting interpretative reviews of research literature is a common social science activity. In recent years, however, the traditional narrative review approach has been subjected to a great deal of criticism (e.g., Cooper & Rosenthal, 1981; Glass, 1977; Jackson, 1978, 1980; Light & Pullemer, 1982). Well-defined procedures for synthesizing the findings of a number of primary studies have been formalized only recently (Jackson, 1980; Light & Pullemer, 1982).

Jackson (1978, 1980) presented what is undoubtedly the most systematic study of the status of the review literature. Based on his analysis of a random sample of 36 integrative review articles, Jackson concluded that important weaknesses were pervasive, including lack of attention to previous reviews, incomplete literature searches, inadequate summaries of study findings, and the absence of

systematic examinations of relationships between study characteristics and outcomes. Following up on these conclusions, Jackson (1980) proposed seven crucial tasks to be considered when planning a review or judging the quality of an existing review. These tasks are: (1) the selection and definition of the topic, (2) the use made of previous reviews, (3) the selection of studies to be included in the review, (4) the collection of data from the primary research reports, (5) the analysis of data, (6) the interpretation of the results, and (7) the reporting of the review. It is not a coincidence that the components to be considered when planning or critiquing a review are similar to those to be taken into account in designing or evaluating a piece of primary research. The reviewer and the primary researcher share the goal of reporting findings accurately based on the data which they collect (Jackson, 1978).

Using the seven areas identified by Jackson (1980) as a general framework, we developed the following six sets of questions to provide the context for judging the quality of the seven reviews and the brief sections in the eight general review articles dealing with modifying attitudes toward disabled persons.

1. *Formulating the Problem*

- (a) Was the problem clearly defined and delimited, and its importance justified?
- (b) Were the central terms clearly defined?
- (c) Were questions identified that the reviewer attempted to answer or hypotheses stated that the reviewer sought to test?
- (d) Were the questions and hypotheses adequately warranted by reference to theory, previous reviews, research, or soundly based insight?

2. *Building on Prior Reviews*

- (a) Were previous efforts to review similar bodies of research cited?
- (b) Were prior reviews critiqued as a basis for (1) the justification of another review as different from or an extension of prior reviews, (2) an appropriate point of departure for the review, and (3) avoiding inadequacies and errors of prior reviews?

3. *Selecting Studies to be Reviewed*

- (a) Was the method of locating studies (e.g., the indexes, reference lists, bibliographies used) described?

- (b) Were the criteria for selecting and excluding studies to be included in the review clearly established?
 - (c) Was a representative or comprehensive sample of prior research on the problem reviewed?
 - (d) Did the sample of studies reviewed have a bearing on the problem?
 - (e) Was the sample biased either by being too small or by the failure to include relevant studies?
4. *Collecting Data from the Primary Studies*
- (a) Were data collected for each study on common dependent and independent variables?
 - (b) Were data collection categories defended on rational and empirical grounds?
 - (c) Were data collection procedures specifically described?
 - (d) Were findings from studies recorded as effect sizes?
5. *Analyzing the Data*
- (a) Did the examination of relationships between dependent and independent variables take into account concomitant variables that might have influenced the results, including sample characteristics, assessment instruments, statistical techniques, and design factors?
 - (b) Did the reviewer try to account for any diverse findings within the sample of studies?
 - (c) Were serious methodological weaknesses in studies identified?
6. *Reporting and Interpreting the Findings*
- (a) Were the findings from the primary research reports, including the results of analyses, reported clearly, for example, using summary tables, to help readers comprehend the pattern of results?
 - (b) Were the conclusions of the review sufficiently supported by the data and analyses?
 - (c) Did the review contain implications for policy or practice?
 - (d) Did the reviewer draw conclusions about attitude change theories?
 - (e) Did the review contain recommendations for future research or reviews?

REVIEW OF THE REVIEWS

The results of applying the six sets of questions to the seven reviews and eight review sections are presented on the following pages. Specific examples have been included to illustrate our applications of the questions and, as is appropriate in scholarly work, studies are cited so that readers can check our interpretations. Such specific referencing of weaknesses in studies is usually not done. Nevertheless, as careful attention to reviews of literature as a scholarly activity become common, critiques with specific citations, such as recent criticisms of prior reviews by White, Bush and Casto (1985-86) and Slavin (1984), ought to become more frequent. Our intent here is not to demean the work of previous reviewers, but to try to learn from their efforts.

FORMULATING THE PROBLEM

The productive starting point for a review of literature, as with primary research, is a clear statement of the perplexity underlying the scholarly effort. Hence, the first set of questions to serve as a context for judging the reviews has to do with problem formulation.

Rationales for conducting a review of the research literature on modifying attitudes toward disabled persons were provided in all but one article (Haddle, 1974). For the most part, the reviewers cited the prevalence of negative attitudes toward the disabled, both in the community at large (e.g., Johannsen, 1969; Rabkin, 1972) and in specific groups, such as teachers and school personnel, mental health professionals, service providers, and employers (e.g., Alexander & Strain, 1978; Chubon, 1982). Either stated directly or implicit within most of these reviews was the need to mount attitude change programs in order to provide better services to disabled persons (e.g., Donaldson, 1980; Horne, 1979) or to facilitate integration by reducing public prejudice (e.g., Sandler & Robinson, 1981; Segal, 1978).

The rationales for two reviews, however, appeared to be based more on scholarly interests than on the practical problem of mitigating the effects of handicapism. Towner's (1984) orientation was theoretical. Her purpose was to examine the "variability in the results" of a number of empirical studies using factors hypothesized to be requisites to effective attitude change interventions

(p.223). Rabkin's (1972) interest, on the other hand, was historical. Her brief review of attitude change studies was one aspect of a general review of the literature that included descriptions of changing attitudes toward mental illness and the treatment of mentally ill patients.

Defining terms. As in designing primary research, the problem underlying a review of research ought to be stated in terms sufficiently precise to provide clear guidance in the collection, analysis, and interpretation of data. Such specificity requires both conceptual and operational definitions of relevant variables.

The construct "attitude" is central to the topics of the reviews critiqued here. Despite the signal importance of this construct, however, only two reviewers provided a conceptual definition of it. Harth (1973) described attitudes as "predispositions toward behavior" (p.150), a definition attributed to an earlier work by Osgood, Succi and Tannebaum (1957). Johannsen (1969) defined attitude to be a "personal disposition avoiding truth as an issue", and he cited Nunnally (1969) as his source (p.219).

An operational definition of attitude was not specifically given in any of the 15 reviews. Implicit, however, was the presumption that attitude was represented by scores or whatever attitude measures were used in the primary research.

Conceptual definitions of the constructs used to identify disability groups were also missing in most of the reviews and had to be inferred from the context of the review. The disability constructs were not operationally defined, either. Terms used frequently in titles to describe the population of concern, such as "disabled", "handicapped", "mentally ill", and "mentally retarded" lack precision; interpretations of the populations to which they refer may vary widely, as Rabkin (1972) pointed out in her discussion of changing perceptions of mental illness.

Questions and hypotheses. As with the planning of a primary study, questions and hypotheses, usually formulated from theory and prior research, should provide the focus for an integrative review (Jackson, 1980). Questions or hypotheses were rarely a feature of the reviews and sections of reviews under examination. In fact, hypotheses were not directly stated in any review, and specific questions to be investigated were identified only by Chubon (1982) and Donaldson (1980). And, although it seemed likely that these questions had been developed from perusals of the research literature, they were stated in a very general manner, without specific reference to prior research reports or attitude change theories.

Building on Prior Reviews

Primary research studies are to be designed and conducted within the context of a critical review of prior research, according to a commonly accepted canon of scholarship. As scholarly contributions to knowledge, reviews of the literature should also be based on prior effects. Jackson (1978) argued that prior reviews on a topic should be considered "to assess what is already known on the topic, to refine questions or hypotheses . . . to anticipate problems that may be encountered . . . to gain familiarity with alternative ways of doing the review and to acquire ideas for interpreting the results of the forthcoming review". Yet, as Jackson (1980) and White et al. (1985-86) have pointed out, the critical analysis of prior works is not common in literature reviews.

The findings from the present investigation were consistent with that conclusion. Of the 15 reviews and brief reviews examined, only seven cited prior reviews; however, in only four was it made clear that reviews of the literature were being referenced. The most-cited reviews were by Anthony (1972) and Donaldson (1980). References to Anthony's review were found in Horne (1973), Haddle (1974), and Horne (1985). The latter two works did not identify Anthony's article as a review of the literature. Donaldson's review was referred to by Sandler and Robinson (1981), Towner (1984), and Westwood et al. (1981).

It appears that the cited reviews were accepted without question. Neither the Donaldson (1980) nor the Anthony (1972) review was subjected to critical examination, although methodological weaknesses in each will be noted later. Donaldson's review, in particular, was very favorably described in both Towner (1984) and Westwood et al. (1981).

Justification of a new review. With the exception of Towner (1984), the authors who cited prior reviews provided no rationale for conducting another review; nor did they state how their review differed from earlier works. Towner acknowledged Donaldson's (1980) review, and she explained that her review differed from Donaldson's in both "format" and "focus" (p.223). Furthermore, she suggested that, together, the two reviews offered a "comprehensive analysis of the literature on modifying attitudes toward disabled persons" (p.223). A comparison of the two reviews revealed that Towner's was more thorough and methodical, and the justification she presented for another review was evidenced in her work.

Selecting Studies to be Reviewed

The method used to locate primary studies, including the thoroughness of the search, is an important factor in the validity of a review of research. Procedures should be used that will locate the maximum number of primary studies (Jackson, 1980). A search employing computerized information retrieval systems, but excluding printed bibliographies and reference lists in primary research reports is, for example, likely to identify a small subset of studies that is not representative of the entire body of research (White et al., 1985-86). The findings of a review based on such a body of research could be severely limited, even misleading. Since the adequacy of the literature search affects the generalizability of the conclusions in a review, Jackson (1980) argued that it is the responsibility of a reviewer to report the search strategy.

As with primary research, sampling bias is a serious threat to the external validity of reviews of research. Glass (1976) has argued that all studies that can be located on a topic — i.e., the accessible population of primary research reports — should be included in an integrative review. Although other writers disagree with Glass (see, e.g., Bangert-Drowns, 1986), it is clear that if the accessible population of primary reports is not reviewed, the sampling procedure should be reported along with the search procedures (Jackson, 1980; White et al., 1985-86). The reader of the review then can judge what population is represented by the sample of studies.

Search techniques. The method of locating studies was reported in only one review (Chubon, 1982). Chubon described his search as including a manual search of the journals published for the “helping professionals” (p.25) and computer-assisted searches of *ERIC*, *Dissertation Abstracts*, and *Psychological Abstracts* for the period 1960-1979. It was not possible to identify the search strategies for the remaining 14 reviews.

Criteria for selection. The total number of individual studies concerned with attitude change cited in the seven reviews and eight brief reviews was 192. This is only slightly more than one-quarter of the 706 primary studies in this area located by the authors for the period 1950 (the earliest study identified) through July, 1986 (Shaver, Curtis, Jesunathadas & Strong, 1987). The median number of primary studies referenced in the full reviews was 31 ($\bar{x} = 38$; range, 24-70); in the brief reviews, the median was 10 ($\bar{x} = 13$; range, 5-27). A correlation coefficient (Pearson product-moment r) of .64 indicated a moderate relationship between number of primary studies cited in each full review and the

number of studies available when the reviews were in preparation. The r of .18 for the eight brief reviews indicated a much smaller relationship.

Dissertations and theses, which comprised over one-third of the 706 primary studies referred to above, were almost totally ignored in the 15 reviews. The number ($N = 27$) cited was slightly more than one-tenth of the number available. The median numbers of dissertations and theses referenced in the full and brief reviews were 6 ($\bar{x} = 4$; range, 0-9) and 3 ($\bar{x} = 2$; range, 0-7), respectively. Moreover, the majority (84%) of dissertation citations were references to abstracts in *Dissertation Abstracts* and *Dissertation Abstracts International*, rather than to the actual dissertation. One (Donaldson, 1980) of two references to a magistral thesis (Wyrick, 1968) was, in fact, a reference to the work in a secondary source.

Sampling bias. Although considerable selection obviously took place, the criteria used by the reviewers for including or excluding studies could not be ascertained. As a consequence, it was difficult to judge the representativeness of the sample of studies cited in most reviews, and the possibility of sampling bias as a threat to the generalizability of the conclusions in each of these reviews has to be seriously considered. In two reviews (Alexander & Strain, 1978; Horne, 1979), however, sampling bias was beyond doubt as references were limited to reports of successful interventions. Bias was also highly likely when only one study out of the many available was cited in a discussion of a particular intervention (Pulton, 1976). Donaldson (1980) also provided an example of a limited sample of primary studies, using only two studies of simulation, one positive and one negative, as the basis for drawing a conclusion.

A common core? The few times that even the most frequently cited studies were included in more than one review suggests that the reviewers did not draw on a common core of research for their conclusions. Only 70 of the 192 studies cited in the reviews were included in two or more reviews. Moreover, the seven most frequently referenced studies were cited in only five of the 15 reviews. Another 14 studies were referenced four times. The remaining 49 studies were cited either three times (17 studies) or twice (32 studies).

The greatest number of common sources was shared by Anthony (1972) and Haddle (1974). Of the 30 studies referenced by Haddle, 18 had been cited previously in Anthony's review. Other pairs of reviewers who cited a number of studies in common were: Horne (1985) and Towner (1984), with 17 shared citations; Donaldson (1980) and Towner (1984), with 14 shared citations; and, Towner (1984) and Westwood et al. (1981), with 14 citations in common. For

the most part, the overlap in reference lists was not great, and two of the 15 reviews (Alexander & Strain, 1978; Segal, 1978) contained few citations in common with other reviews.

The lack of a core body of research common to the reviews suggests that few primary studies had acquired adequate status or visibility that their inclusion was considered essential to an adequate review. Furthermore, the data also suggest that later reviewers did not rely on reference lists in prior reviews to obtain studies to examine.

Study relevance. Another concern with sampling is the appropriateness of the primary studies for the specific questions the review is intended to address. Reviewers who attempted to identify effective strategies for modifying the attitudes of particular groups, such as health professionals (e.g., Chubon, 1982), educators (e.g., Alexander & Strain, 1978), or peers (e.g., Horne, 1985) tended to cite studies that were relevant to these groups. Inferences for attitude change in a specific context, however, were sometimes drawn from studies not directly relevant. Sandler and Robinson (1981), for example, reviewed the literature in an attempt to locate "factors which may be related to improved public attitude toward development of group homes for mentally retarded people in the community" (p.98). Only two of the 33 studies they examined had a direct bearing on this purpose.

By the same token, reviewers who sought strategies for changing societal attitudes (e.g., Donaldson, 1980) had to extrapolate to the general population from the findings of studies conducted with specific populations, such as university psychology students, nursing students in internship programs, and special education students on practica. Only occasionally did reviewers remind the reader of the importance of viewing the conclusions from a limited set of findings with caution (Anthony, 1972).

Collecting Data from Studies

The procedures for collecting data from primary studies for a review should meet standards similar to those for data collection in primary research. That is, they should be "systematic", "well-planned" (Borg & Gall, 1983), and "organized in a manner which facilitates analysis" (Gay, 1976). Furthermore, since the methods for collecting the data influence the outcomes of analysis and the credibility of the interpretations in the review (Jackson, 1980), they should be described carefully.

None of the 15 reviews contained a description of data collection procedures; nor could it be inferred how data were collected since, for the most part, the results of primary studies were reported in narrative form. For example, there was no way of knowing if some sort of coding sheet was used or if notes were taken while reading studies. Failure to indicate information on data collection, or to present results in a manner that makes the method evident, appears to be prevalent in reviews of research (Jackson, 1980; White et al., 1985-86).

Dependent variables. Although data collection procedures were neither described nor justified, some inferences could be drawn about their adequacy. An important aspect of a research review is the treatment of the dependent measures used in the primary studies. For the most part, the reviewers' reports of data pertaining to dependent variables suggested that the gathering of information was not adequate. Dependent variables were not described, and in only three (Haddle, 1974; Rabkin, 1972; Towner, 1984) of the 15 reviews were the means of assessing dependent variables identified for individual studies. Of the remaining 12 reviews, three reported dependent measures for several but not all of the primary studies cited, and nine made no mention of how study outcomes were measured.

Independent variables. The reporting of primary studies in most reviews was organized under broad categories according to intervention techniques, with "contact" and "information" the most frequently used headings. There was a tendency to describe intervention strategies only in a very general manner. Important study characteristics — such as the treatment setting, who conducted the treatment, and treatment length — were ignored, suggesting that data were not collected on these variables. For example, treatment length, which might be a significant factor in the effectiveness of an intervention, was mentioned for some studies in only five reviews (Donaldson, 1980; Haddle, 1974; Horne, 1985; Rabkin, 1972; Towner, 1984) and for most studies in only one (Anthony, 1972) review.

The reviews would have been strengthened by adequate description of the intervention techniques. For instance, in discussing "enforced contact" as a strategy for modifying attitudes toward the disabled, Sandler and Robinson (1981) stated, "... Aloia, Beaver, and Pettus (1978), Leyser and Gottlieb (1980), and Marlowe (1979) have also reported the use of carefully planned interventions which improved the social status of integrated EMR children" (p.99). In each of these studies, however, there were important differences not only in

sample characteristics, but in treatments. These differences were not identified, nor was the reader informed whether the differing interventions were equally effective.

In some cases, the primary studies were referred to in such a way that the general categories of intervention techniques could not be inferred. An example comes from Chubon (1982). Following a statement about the mixed results with treatments designed to "enhance attitudes of teachers and students majoring in various areas of education toward disabled students", Chubon stated, "while some attitude change programs seemed to produce the desired results . . . others have produced no changes" (p.26). He cited Kuhn (1971), Parish, Eads, Reece and Piscitello (1977), Wilson and Alcorn (1969), and Zukerman (1975) as relevant studies. Without referring directly to each study, the reader is unaware that the intervention techniques included exposure to blind children (Kuhn, 1971), an introductory special education course (Parish et al., 1977), simulations of disabilities (Wilson & Alcorn, 1969), and gaming (Zukerman, 1975). The implication is that data describing important treatment variables such as these were not collected.

Program description-research confusion. Some authors cited narrative descriptions of programs in their reviews of primary research, which raised questions about their data collection procedures. Johannsen (1969), for example, in a discussion of employers' attitudes toward hiring ex-mental patients, referred, respectively, to programs described by Murray (1958) and Brennan and Margolin (1954) with the phrases "promising results were forthcoming" and "success was also reported". These references were included along with primary studies and the title of Johannsen's article described it as a "review of empirical research" (p.218). Nevertheless, neither the Murray or the Brennan and Margolin article was a report of research; both were narrative accounts of programs advocated by the authors for encouraging the acceptance of ex-mental patients in the workplace.

Conclusions-findings confusion. In a somewhat similar vein, questions about data collection were raised by reviewers who treated recommendations from the conclusions sections of reports as though they were research findings. Rabkin (1972), for instance, examined the research pertaining to modifying mental hospital attendants' attitudes toward patients. She stated that "Middleton's (1953) work suggests that training [for attendants] ought to include a thorough indoctrination about etiology, treatment results, examples of success,

and reasons for failure, with periodic repetitions of this training" (p.163). In his study, Middleton compared the attitudes of attendants and non-attendants in a mental hospital. In the "Conclusions" section of his article, he recommended the type of instruction referred to by Rabkin. However, such instruction was not provided to the subjects in his study.

Other problems. Clearly, collecting data in such a way that researchers' findings are kept distinct from their conclusions and recommendations would enhance the validity of reviews. Other problems that may stem from inadequate data collection are presenting studies incorrectly, failing to consider all the results from a piece of research, or citing irrelevant studies. Instances of such practices were identified in 11 of the 15 reviews.

Reporting outcomes. It was not possible to discern how most reviewers gathered data concerning study outcomes. In 13 of the 15 reviews, research findings were reported only narratively, suggesting that quantitative data, either statistical significance or effect sizes, were not generally collected. Only Haddle (1974) and Towner (1984) clearly used statistical significance of the outcome indicator.

One of the dangers of not collecting and reporting information on either levels of statistical significance or effect in sizes in primary studies is that the reader may be tempted to assume that statistical or practical significance was reached. In six of the 15 reviews, such a conclusion could be erroneous. For example, Anthony (1972) referred to a study by Cowen, Underberg and Verrillo (1958) with the comment, "These researchers found that individuals who had had contact with the blind tended to have more negative attitudes than individuals reporting no contact" (p.118). In fact, on an instrument to assess attitudes toward blindness, Cowen et al. found that the difference between the mean scores of contact and non-contact groups was slight (54.53 vs. 53.58) and not statistically significant ($t = .39$).

Analyzing the Data Collected from Primary Studies

In conducting a review of research, as with primary studies, once the data are collected they must be analyzed. The analysis is the basis for the reviewer's inferences from the findings. Important decisions that could significantly affect the quality of the review face the reviewer during the analysis of data stage. Analysis is complicated by the need to consider a number of factors (e.g., sample characteristics, design, intervention implementation, the assessments used) that

might covary with outcomes and confound conclusions. Among the matters that must be decided are how to attempt to get at relationships between outcomes and the concomitant variables that might have confounded findings, how to treat the results from studies that vary in degree of methodological soundness, and what analyses to conduct to explain contradictory findings among primary studies.

Concomitant variables. None of the 15 reviews reported the results of analyzing the effects of concomitant variables. The common practice was to deal simply with treatment-dependent variable relationships, despite the number of sample attributes (e.g., age, sex, intelligence, education) and intervention characteristics (e.g., setting, length of treatment) that might have been related to changes in attitudes toward disabled persons.

This was the case even when primary studies involved complex analyses, such as a study by Hafer and Narcus (1979) that was reported in Westwood et al. (1981). Hafer and Narcus investigated the effects of two films (one a comedy) and pretesting on college students' attitudes toward disabled persons. They used multiple classification analysis of variance to treat data collected from a modified form of the Solomon four-group design. In addition to significant differences between the posttest scores of the two film groups — which were not present on follow-up testing — significant interactions were found both for pretesting by specific movie viewed and for specific movie seen by time of posttesting. Despite this complexity, the study was reported as follows in the Westwood et al. review: "Other studies involving college students (Hafer & Narcus, 1979; . . .), nursing students . . . , high school students . . . and grade school students . . . also produced equivocal results with three showing positive change . . . and three showing no change (Hafer & Narcus, 1979 . . ." (p.221).

Diverse results. Systematic approaches to the examination of conflicting findings were described by Jackson (1980), Ladas (1980), and Light and Smith (1971). They suggested that conflicting findings may result from a number of factors, including sampling error, grouping under the same attitude change strategy studies with different intervention characteristics, methodological inadequacies, and instrumentation. The implication is that the reviewer is responsible for attempting to explain divergent findings from a set of primary studies.

With the exception of Alexander and Strain (1978), Horne (1979), and Segal (1978), in which only successful studies were cited, the reviews included both studies with positive results and studies which produced nonsignificant or

negative findings. Only three, however, provided explanations for differing findings.

Towner's (1984) examination of nonsignificant and negative findings was the most adequate attempt to explain discrepancies. She discussed the covariation of outcomes with methodological soundness and theoretical underpinnings and concluded that unsuccessful results could not be attributed "to any single factor" (p.252). She suggested that poor reports of studies, weak methodologies, and failure to ground interventions in theory inhibited the drawing of conclusions about the effectiveness of particular attitude change strategies.

Anthony's (1972) discussion of discrepant findings was limited to studies investigating contact as a change strategy. He noted the tendency of correlational studies to yield a positive relationship between reported contact and attitudes toward disabled persons, while the findings of experimental-type studies in which contact was the independent variable were frequently nonsignificant or negative. Anthony urged that the inconsistent results might be due to the use of self-reports (in which the individual subjects define contact) in the correlational research.

Donaldson's (1980) discussion of discrepant findings pertained to studies which employed contact or knowledge as change agents. She observed that contact studies tended to yield successful results when contact was "structured" to expose subjects to disabled persons who behaved in a non-stereotypic manner. However, no explanation was given for the positive results from some studies in which "unstructured" contact was used. Discrepancy among knowledge studies, Donaldson maintained, could be explained by reference to a Lewinian model, from which discomfort reduction was posited as a mechanism for modifying attitudes. She argued that reduction of discomfort was employed as a change strategy in all of the successful studies but it was not a feature of the unsuccessful studies. A perusal of the reports of the unsuccessful studies identified by Donaldson revealed that it was not possible to determine whether discomfort reduction was or was not a feature of these studies.

Theory base. Whether outcomes vary between studies with and without a theoretical focus is an important analysis question in attitude research. Few (less than 20%) of the primary studies cited in the reviews explicitly identified the attitude change theories upon which the interventions were based (Shaver et al., 1987). However, only five of the reviews (Chubon, 1982; Donaldson, 1980; Haddle, 1974; Harth, 1973; Towner, 1984) mentioned this shortcoming.

And, with the exception of Towner, comments concerning the failure of most researchers to ground their studies in theory were general in nature, with studies that lacked a theoretical base not identified specifically. This lack of a theoretical base for the primary studies was not taken into account in analyzing the studies cited in the reviews.

Attitude assessment. Whether outcomes covary with quality of outcome assessment is another pertinent analysis question. Critical comments concerning the assessment of attitudes were, however, infrequent in the reviews. Towner (1984) alone pointed out inadequacies in the reporting of assessment in many studies. She criticized the lack of reliability and validity data in the instrumentation sections of most primary reports. Furthermore, she noted that instruments developed for individual studies were often poorly described and test development details were seldom given. Chubon (1982) also criticized the means for assessing attitudes in the studies he reviewed, but his comments were general, without reference to either specific studies or tests. Relationships between instrumentation and outcomes were not discussed in any review.

Methodological weaknesses. Shaver and his associates (1987) coded 143 (74%) of the 192 primary studies cited in the 15 reviews for treatment and internal validity. None of the 143 studies was judged to be "excellent" in treatment validity or "high" in internal validity. The treatment validity of 55 percent (N = 79) of the studies was coded "fair", and that of the remaining 45 percent (N = 64) was coded "poor". Major threats to treatment validity were multiple treatment interference, shortcomings in treatment implementation, test by treatment interactions, and experimenter effects. The internal validity of 36 percent (N = 52) of the studies was judged to be "medium"; that of the remaining 64 percent (N = 91) was coded as "low". Selection, maturation, and instrumentation were found to be serious threats to internal validity in many studies.

Contrary to the above findings, only a few reviewers expressed concern for the general quality of the primary research they cited. Towner's (1984) conclusion that the findings of many of these studies "can only be characterized as contaminated" (p.251) was in accord with earlier comments by Anthony (1972), Chubon (1982), Donaldson (1980) and Haddle (1974). However, only Towner identified the studies she judged to be methodologically weak and attempted to examine systematically the methodological deficiencies in the studies. Anthony limited his criticism to studies in which self-reports of contact were the independent variable, while Chubon, Donaldson, and Haddle com-

mented on weak designs in only a very general sense. It was, therefore, difficult to determine how adequacy of design was weighed in their discussion of findings.

Characterizing results. Whether there are discrepancies in findings or not, the reviewer must characterize and summarize results as a basis for drawing conclusions about the effectiveness of particular interventions. The methods of analysis used for that purpose were described in only one review. Towner (1984) employed the box-score or voting method, in which statistically significant and nonsignificant results are summed, to cumulate findings. It can be inferred from the context of their reviews that Anthony (1972), Haddle (1974), Segal (1978), and perhaps Rabkin (1972) used the same method.

Interpreting and Reporting the Findings

If, as Jackson (1980) suggested, the "methodology of primary research" can be "used to conceptualize the methodology of integrated reviews" (p.442), then the final section of a review is analogous to the "Discussion and Conclusions" section in a primary research report. Here, the results of the study would be discussed in terms of the original hypotheses or questions, and practical and theoretical implications drawn from those results. Here, also, the limitations of the study are to be identified and recommendations for further research made.

Findings and conclusions. As already discussed above, methods of data collection were not reported for the reviews, nor were clear summaries of findings provided as a basis for conclusions. Nevertheless, conclusions as to the effectiveness of change strategies were drawn in most of the 15 reviews, even though often briefly stated. These conclusions are summarized in Tables 1 and 2.

Of the 15 reviewers, only Anthony (1972), Chubon (1982) and Towner (1984) qualified their conclusions by reference to shortcomings in the primary studies they reviewed. Both Chubon and Towner cited weaknesses in the design and instrumentation of primary studies as limiting factors in the generalizability of the results. Due to the general lack of methodological soundness in the studies reviewed, Chubon referred to his findings as "soft or preliminary" (1982, p.29) and Towner characterized her findings as "contaminated" (1984, p.251). Anthony suggested that his conclusions pertaining to contact and information were limited because of the restrictive nature of the samples used in the primary research studies he reviewed.

Implications for practice. Practical implications were drawn by the reviewers, but they are open to question. Effective strategies for modifying attitudes toward

the disabled were mostly identified only in general terms. Typical was Anthony (1972) who concluded that "the attitudes of nondisabled persons . . . can be influenced positively by providing . . . an experience which includes contact with disabled persons and information about the disability" (p.123).

The practical significance of the recommendations in the reviews is uncertain, not only because of the general manner in which the recommendations were stated but also because, as noted above, the validity of the reviewer's data collection methods can be seriously questioned. Problems such as the lack of representativeness of the samples of primary studies, the grouping of primary studies into loosely defined categories, and the tendency to ignore complex designs are threats to the usefulness of the recommendations.

Theoretical Implications

Attitude change theory might have been advanced had the theoretical bases for the interventions or the theoretical implications of the results been examined, but few reviewers did so. In fact, research results were discussed in terms of attitude theories in the conclusions sections of only two reviews (Pulton, 1976; Towner, 1984).

While Pulton's (1976) discussion was limited to attitude change following simulations of marginal disabilities in one study, Towner's (1984) discussion of attitude theory was thorough and systematic. She extrapolated seven elements from attitude theory to use in reviewing each of 47 studies, and concluded that success appeared to be related to the number of theoretical elements employed in a study; but that conclusion, she suggested, should be considered tentative because there were so few methodologically sound studies among those she examined.

Research Recommendations

Recommendations for future research were included in the results of seven of the 15 reviews. Recommendations were stated in general terms and varied from simple pleas for "successful experiments" (Pulton, 1976) and for researchers to "coalesce the disparate findings [of primary research] and to build upon the work of one another" (Chubon, 1982), to multiple suggestions for designing studies and selecting and reporting the instruments used to assess attitudes (Towner, 1984).

Table 1

Summary of Conclusions about Treatment Effectiveness in the Full Reviews

Author	Contact	Information	Contact + Information	Vicarious/ Simulation	Other Comments
Anthony (1972)	Studies with wide variety of disabled persons, no consistent changes (p.119) Contact in and of itself does not change attitudes significantly (p.120) May even reinforce negative attitudes (p.123)	Regardless of how information presented, negligible affect (p.120, 121)	Consistently favourable impact (p.121, 123) Limited research, with college volunteers or trainees in helping professions: Dearth of data on other age groups, nonvolunteers, and nonhelping professions (p.123)		Dearth of experimental studies (p.120) Need to include behavioral measures (p.124) Little known about the time needed (varied in length from 6 hours to 2 years, p.123)
Haddad (1974)	No substantial results with contact alone (p.93)	Most studies produced no significant results (p.92)	Information and contact tend to produce more significant results (p.95) But studies poorly designed (p.95) Most significant studies required extensive contact — often 40 hours/week (p.95)		Cites Anthony (1972) that most Ss were volunteers and college age (p.96) Most studies lacked good experimental designs (p.96)
Donaldson (1980)	Contact per se not effective (p.505) Structured contact, positive change (p.505); unstructured social or professional contact, results equivocal (p.505) Factors in positive change: (1) — status (age; social, educational, vocational status; helping relation) (p.505); (2) — disabled don't act in stereotyped manner (p.507) Short, structured non-stereo experiences, short term impact (p.511)	No casual relationship between limited information and attitude change (p.508) If information confirms negative stereotypes, negative affect (p.511) Studies of courses not helpful because content unspecified and confounded with contact, media exposure, instructor characteristics (p.508)		Simulation: only 2 studies. Can be effective if can observe reactions of nondisabled persons (p.508)	Paucity of research; "literature contains relatively few studies" (p.505) Failure to test theories (p.529) Behaviour outcomes & long term effects need investigating (p.512)

Sandler & Robinson (1981)	Effects of contact equivocal (p.98)	Effects assessed by few researchers (p.99) Controlled studies needed (p.100)	Cited 1 study that information and contact together beneficial (p.101)		
Westwood et al. (1981)	"Results tend to be inconclusive at best" (p.221)	"Educational programs" produced equivocal results; results "inconclusive at best" Program content unknown (p.221)	Simulation: "results . . . are inconsistent" (p.222)	Contact: "earlier studies didn't produce change (p.221) Need to study various media (p.221)	
Towner (1984)	Various approaches with different populations equally effective; similar techniques with different disability groups yielded discouraging and contradictory findings. Positive and negative findings, in addition to nonsignificant results, from contact and information. Modes of presentation, including simulation, didn't produce significant differences (pp.249-51)			Instrumentation seemed to have no effect (p.251). Generally paper & pencil techniques (p.224) Few attempts to address the complexity of attitudes (p.224) Most reported no theoretical base (p.224) Findings contaminated by methodological faults (p.251)	
Horne (1985)	Results inconclusive (pp.156; 163-4) Limited # of studies, differences in treatments, methodology, & disabilities (p.156-7)	Inconsistent results (pp.163-4)	More successful, with professionals, but still not consistent (p.151)	Role playing, children's books — results mixed (p.178)	Interactions rarely assessed (p.182, 186) Do immediate posttest results hold up? (p.185)

The most frequently mentioned recommendation was to base research on theory and to design research to test competing theories of attitude change (Harth, 1973; Horne, 1985; Donaldson, 1980; Towner, 1984). Furthermore, Donaldson, Horne and Towner suggested that in the future, researchers should examine the relationship between attitude and behavior, as well as address the long term effects of attitude change interventions. Donaldson also proposed that future studies should be directed toward investigating social forces that encourage the devaluation of disabled persons.

Table 2

Summary of Conclusions about Treatment Effectiveness in the Brief Review

Author	Contact	Information	Contact + Information	Vicarious/ Simulation	Other Comments
Pulton (1976)	Contact a factor but not with all social settings	Results with information equivocal		Role play has potential (pp.86-7)	Very few experiments that have positively changed attitudes toward physically stigmatized (p.85)
Johannsen (1969)	Equivocal results (p.224)	Not much is known about relative effectiveness of techniques (p.224)			
Rabkin (1972)		Results conflict (p.167)	Contact with patients and formal instruction effective (p.166)		Questionnaires, few efforts to measure changes in behavior (p.163)
Harth (1973)	Social contact not enough (p.161)	More direct the procedure, the better the results (p.160)	Effectiveness of knowledge through direct contact supported (p.160)		No consistent line of research; no theoretical base (pp.161-2)
Alexander & Strain (1978)*					
Segal (1978)	Can reinforce negative attitudes if bizarre behavior (p.215)		"Educated contact" necessary (pp.215, 216)		
Home (1979)			Need information and contact (p.63)		
Chubon (1982)	Some indication that professional experience negatively related (p.28)				Lack of definition of terms (p.27) Methodology poor — lack of theory, standardized definitions, refined measurement devices Need to build on findings and experiences of other researchers (p.27)

* No conclusions based on the research in regard to methods for modifying attitudes toward disabled persons could be found in the article.

Research designed to assess the effectiveness of a variety of media for presenting persuasive communications was advocated by Donaldson (1980) and Johannsen (1969). Donaldson also recommended that studies of desensitization and modeling as attitude change approaches include the exploration of the differential effects of live versus media presentations of nondisabled persons interacting with disabled persons in a nonstereotypic and positive manner.

Alexander and Strain's (1978) recommendations for future research reflected their interest in modifying teachers' attitudes toward disabled students and mainstreaming. They favored studies designed to identify factors in preservice and inservice teacher education programs that would have positive effects on attitudes toward both disabled children and their integration into regular classes, a concern expressed later by Donaldson (1980).

Horne's (1985) recommendations included exploring relationships between subject characteristics (such as predisposition toward disabled persons, age, and sex) and the effectiveness of particular interventions, and examining strategies for modifying attitudes in specific situations (e.g., the attitudes of a particular group toward a certain disability).

The focus of the recommendations for future research was on primary studies. No reviewer proposed additional or alternative types of reviews.

DISCUSSION

Seven full and eight brief reviews of primary research on the modification of attitudes toward persons with disabilities were located by a comprehensive search of the literature. These reviews were examined for methodological soundness and for their contributions to practical knowledge and attitude change theory, using questions developed primarily from the work of Jackson (1978, 1980), with the primary research process as a model.

Although building on prior works is a standard approach for advancing knowledge, most reviewers ignored previous, but relevant, reviews. As a consequence, they did not draw on the findings of earlier reviewers; nor did they use inadequacies in prior reviews as a means for improving the quality of their work. Most of the reviews were presented as though they were unique in the literature.

The possibility of sampling bias was present in each review. Methods of locating primary studies were seldom reported; moreover, the limited

reference lists of studies and the small number of primary studies that were cited in more than one review cast serious doubt on the representativeness of the samples. Consequently, the generalizability of the findings of the reviews is dubious.

Many of the primary studies reviewed were low in treatment and internal validity; and, although this was mentioned in several reviews, it could not be determined how such studies were weighted in reaching conclusions about the effectiveness of particular interventions. It seems apparent, given the lack of discussion, that treatment and internal validity were not explicitly considered by most reviewers. Including poorly designed and executed studies in the reviews without examining the association between design quality and outcomes compromised the validity of interpretations and conclusions.

A number of significant methodological weaknesses were found in most reviews. Primary studies were placed into loosely defined intervention categories, with the result that important differences in intervention characteristics were frequently disregarded. Narrative reports of programs and reviews of literature were cited as though they were primary studies. In several reviews, primary studies were misinterpreted and irrelevant studies were cited. Furthermore, there was a general tendency to report the findings of complex primary studies in simple treatment-outcome terms; in some cases only partial results were reported. Even the statistical significance of findings was not presented in most reviews, and no reviewer reported an effect size metric independent of sample size. Studies which failed either to identify the dependent variable or to provide reliability or validity data for project-developed instruments appeared to be accepted uncritically. Contradictory findings were not adequately analyzed or explained in most reviews. In view of these concerns, the findings of the reviews should be treated with caution.

Important deficiencies were also noted in the conclusions of most reviews. The practical value of the conclusions is questionable, as interventions judged to be effective were most often described in broad generalizations. Few reviewers attempted to examine the theoretical underpinnings of change strategies and little contribution to attitude theory was made by the reviews. Additionally, few reviewers acknowledged limitations to the generalizability of their findings, even though sample bias was a threat in all of the reviews. Specific recommendations for future research were rare.

IMPLICATIONS FOR FUTURE REVIEWS

This review has important implications for future integrative reviews. For example, the small number of primary studies included in the reviews, the slight overlap of the reference lists, and the failure of the reviewers to describe how studies were selected indicate that the samples of studies for the reviews may not have been representative of the population of primary works reporting investigations of interventions for modifying attitudes toward persons with disabilities. In future reviews, a careful sampling approach or a comprehensive literature search should be considered as an essential procedural element. Furthermore, future reviewers should report literature search procedures thoroughly.

The ineffectiveness of the reviewers' practice of grouping interventions under broad descriptions that fail to delineate specific sample and intervention characteristics indicates the need for more precise coding and reporting of design and sample characteristics. Although not used in their own reviews, Anthony (1972), Donaldson (1980), Harth (1973), Segal (1978), and Westwood et. al. (1982) did provide useful suggestions for subcategories to use in coding interventions within generic groupings of change strategies.

Most of the reviewers did not explore relationships between quality of research design and results in the primary studies they examined; future reviewers should collect and organize their data so that associations between design quality and outcomes can be examined. Similarly, comparing the results of studies that differed in the quality of instrumentation would be an appropriate strategy in future reviews. Examining quality of design and instrumentation might provide insights into the reasons for contradictory findings.

The lack of attention in most reviews to the theoretical underpinnings or implications of specific change strategies should also be corrected in future reviews.

Most important is the absence of a comprehensive and systematic integrative review of the research. There is a need for such an effort to determine whether the generally indefinite conclusions about the effectiveness of types of interventions for modifying attitudes toward persons with disabilities accurately reflect the state of available research knowledge.

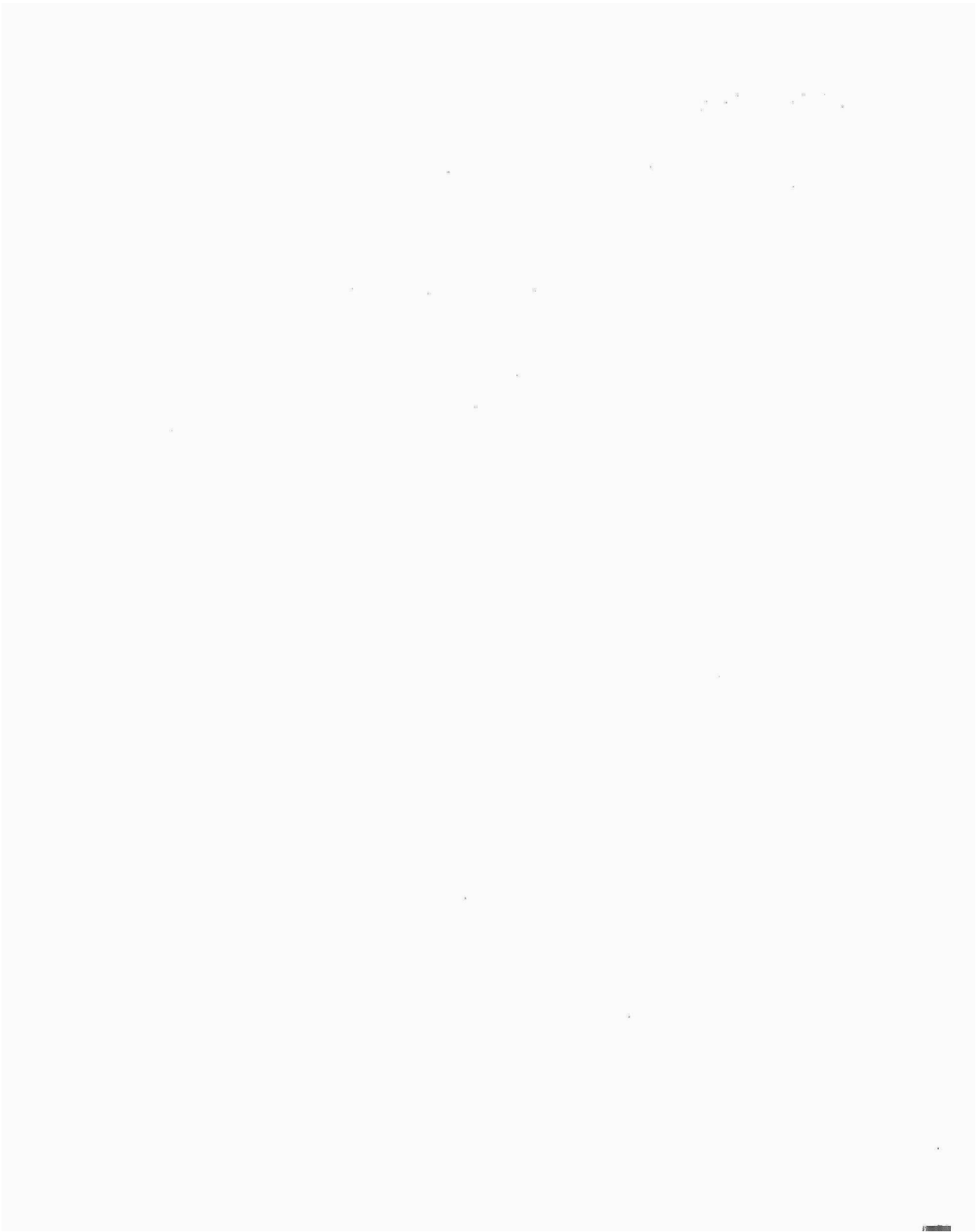
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**EFFECTIVENESS OF
THE LEARNING POTENTIAL ASSESSMENT DEVICE
WITH INDIAN AND COLOURED ADOLESCENTS
IN SOUTH AFRICA**

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Dynamic assessment approaches which, unlike psychometric tests, are designed to measure capacity rather than manifest ability only, are receiving increasing attention. This study aimed to test their effectiveness among groups of sociopolitically and educationally disadvantaged South Africans. Sixty Indian and 60 coloured adolescents from the top and bottom of their respective academic spectra were assigned to experimental and control groups. The experimental groups were exposed to dynamic testing; that is, their performance was assessed before and after receiving mediated learning experience on Feuerstein's Learning Potential Assessment Device, (LPAD). Improvements were produced on certain LPAD tasks. Comparable, conventional measures were used to assess the transfer effects of mediation. Although mediation was not generally effective in yielding change on the transfer (conventional) measures, on certain of the tests there was a mediation effect in interaction with academic performance and race. The findings on the LPAD and the transfer measures suggest the potential value of mediation with sociopolitically disadvantaged groups in South Africa.

INTRODUCTION

There is widespread and increasing dissatisfaction with traditional, standardised psychological tests in relation to assessment and/or intervention in the sphere of education, (Adelman & Taylor, 1979; Coles, 1978; Glaser, 1981; Ysseldyke, 1983). Critics draw attention to the dubious reliability, validity, ethical basis and usefulness of the results of such testing (for example, Adelman & Taylor, 1979; Ysseldyke, 1983). Noting the serious challenge to the traditional quantitative approach, Silverman (1985) points to the need for a distinction to be made between psychometric tests that measure differences among individuals, and those designed to measure the gains and growth of individuals.

In South Africa, the validity and usefulness of conventional tests for the vast majority of the population are particularly questionable. Few available tests have been standardised on children from the various population and cultural groups that constitute the South African population, and inadequate or deflated performance on the tests may simply reflect the lack of appropriate learning experiences. People other than white have always occupied a severely disadvantaged position sociopolitically. South African laws dictate that different racial groups should live and be educated in a segregated fashion. The per capita amount spent on black children is significantly lower than that spent on white education (Marcum, 1982). Also, a large proportion of the teachers in the segregated schools for black children are unqualified. Not surprisingly, exceptionally high failure rates are reported for both elementary and high school children. Thus, there is an obvious and critical need for radical societal change. Educators can assist such changes by introducing approaches to assessment and intervention which are relevant to the culturally heterogeneous and largely sociopolitically disadvantaged population in this country.

A promising approach to the identification of disadvantaged children, which reflects an emphasis on *potential* rather than present performance, is the dynamic assessment of children's learning abilities. Such assessment techniques assess not only current, manifest ability, but ascertain the capabilities of the children concerned, and thus their ability to learn. Dynamic approaches were developed inter alia by Vygotsky (1962), Brown (1979) and Feuerstein (1979). The approach of the last named is of special relevance to the South African situation, in that it has been developed in the course of work with Israeli immigrants who have traditionally been labeled as culturally disadvantaged.

Feuerstein's Learning Potential Assessment Device (LPAD, Feuerstein, 1979) is based upon the premise that the deprivation characterising culturally disadvantaged children is in fact a deprivation of Mediated Learning Experience (MLE), which can be supplemented, compensated for, and enhanced by appropriate intervention. The LPAD serves as a gauge of the degree to which a given individual can in fact benefit from MLE. In other words, it is a measure of the modifiability or potential of the individual. The MLE construct (Feuerstein, 1979, p.110) is the key concept of Feuerstein's theory of Structural Cognitive Modifiability, in which stress is placed on the ability of all human organisms to engage in learning that will be pervasive in changing their cognitive structures; that will be facilitative of further change, and that will render them capable of initiating such change.

Beyond the biological/physiological level, the construction of structures (cognitive-intellectual and affective schemas) that promote adaptations to novel situations is seen by Feuerstein as being affected by two modalities of learning: direct learning experience and MLE. Through direct exposure, individuals from birth are affected by stimuli that impinge upon them which produce a lasting effect in their behavioral repertoires. In MLE, on the other hand, direct experience of the environmental stimuli is transformed through the actions of an "experienced, intentioned and active human being" (Feuerstein, 1979, p.110). Through a range of behaviors such as selecting, framing and focusing and feeding back environmental events, the "mediating agent" (usually a parent or teacher) orientates and organises the phenomenological world for the child. By mediating, this caring person transmits appropriate learning sets or habits "which in turn become important ingredients of (the child's) capacity to become modified through direct exposure to stimuli" (Feuerstein, 1980, p.16). Thus, the provision of MLE is crucial to the "structural cognitive modifiability" of the individual, in that it inculcates in him or her the ability and the disposition to "learn how to learn". In situations where they occupy a disadvantaged or ambiguous sociocultural status parents may have been inadequate providers of MLE. Thus, according to Feuerstein, while such distal factors as low educational levels of parents, emotional disturbance, and poor sociocultural status, may play some role in depressing intellectual ability, the proximal or immediate factor is the lack of mediated learning experience.

A number of studies have been done using the LPAD. These have demonstrated the assessment of potential and modifiability in disadvantaged populations (Feuerstein, 1979; Feuerstein, Miller & Jensen, 1981; Feuerstein, Rand,

Hoffman, Hoffman & Miller, 1979), in the deaf, (Katz & Buchholz, 1984) and in low socioeconomic status gifted children (Skuy, Kaniel & Tsurriel, in press). However, no studies have as yet documented the use of Feuerstein's methods in general, or the LPAD in particular, with groups of South African children.

The race groups into which South Africans are statutorily separated include the politically dominant white group (N=4.6 million), the numerically dominant black or Bantu-speaking group (N=21 million), Indians (N=2 million), and coloureds (N=2.8 million). The lowly status accorded all groups other than white may lead to cultural deprivation in the sense that Feuerstein uses this term. That is, it may result in a deficient intergenerational transmission of knowledge, values and beliefs. For, one of the factors associated by Feuerstein with cultural deprivation or a deprivation of MLE is the inability or unwillingness of the care-givers to mediate the environment for the individual.

This situation seems particularly prevalent among the so-called coloured community in South Africa. This group comprises people of mixed race who, although culturally and linguistically close to the dominant white Afrikaner group, are classified as a separate entity, distinct from black cultural groups, and occupy a significantly lower status than that of whites in the society. They exist in a twilight zone, and experience an ambiguous social identity. The confusion emanating from their uncertain societal and cultural status, as well as the socioemotional problems and diminution of self-concept that are likely to occur, would militate against the optimal transmission of MLE.

Indeed, there are many social problems among the coloured community and their educational achievement is poor. Thus, only 27% of the coloured pupils who reached 8th grade in 1978 survived 12th grade (school leaving) in 1982, (Hartshorne, 1984). In fact, only 40% reach high school at all, and a mere 1% of coloured students matriculate (de Lange, 1981). Again, most teachers in the coloured community have only two years of post-school teacher education after completing only tenth grade at school.

Another political (and numerical) minority culture in South Africa is the Indian group. Unlike the coloured group, however, they form a relatively cohesive subgroup and are thus less likely to be deprived of MLE. They have a somewhat better record educationally in that 53% of the Indian pupils who reached 8th grade in 1978 survived through to 12th grade in 1982 (Hartshorne, 1984). Nevertheless, this is still a deflated rate compared to the figures for their white counterparts (that is 68% survived). Thus, the sociopolitical disadvantage from

which Indians suffer also needs to be counteracted through appropriate dynamic assessment and intervention methods.

This study accordingly aimed to assess the effectiveness of the LPAD with both coloured and Indian adolescents. In doing so, certain assumptions and predications were made. Firstly, MLE, or mediation, on the various tasks of the LPAD was expected to be effective in improving the performance of subjects on these tasks, relative to that of subjects who did not receive such mediation. Secondly, the effects of the mediation provided by the LPAD were expected to generalise to performance on other, comparable measures. Thirdly, inasmuch as coloured subjects may have received less MLE than their Indian counterparts, it was anticipated that MLE provided by the LPAD would be more effective in improving the performance of the coloured than of the Indian subjects. Finally, on the basis of previous studies (e.g. Feuerstein et. al., 1981; Skuy et. al., in press), it was expected that MLE would be effective in improving the performance of both the high and low academic status students in these groups.

METHOD

Subjects

The sample comprised 120 adolescents between the ages of 13 and 15: 60 from a school catering to the coloured community and 60 from a high school for Indians. Both schools were in low socioeconomic status (SES) areas, set aside for coloured and Indians respectively. From each of the two schools, 30 subjects were randomly selected from among the best academic achievers in the 13 to 15 age group, while the other 30 were drawn at random from the poorest academic achievers in that age group. Both low and high academic status groups at each of the two schools were randomly assigned to an experimental and a control group. Thus, from each school there were four subgroups: a high and a low academic status experimental and a high and a low academic status control subgroup. Each subgroup initially comprised 15 subjects. A subject attrition rate of 10% spread fairly evenly across the groups resulted in a final sample of 108.

A biographical questionnaire devised by the authors and completed by subjects afforded comparisons among the subgroups. Using parent's educational status (father, or in the absence of the father, the mother), and occupational

status as criteria, no SES differences were found between the experimental and control groups, or between the high academic status and low academic status subjects. Comparing the Indians and coloured samples, parents' educational achievements were approximately the same. In both cases, modal educational level was seventh grade (completion of elementary school), while only a minority (about 20% in each group) had completed high school. There was, however, a difference between the Indian and coloured groups in occupational status. On the 7-point scale devised by Warner, Meeker and Eels (1960) ranging from professionals (1) to unskilled labour (7), that largest single group of Indian parents were at level 5 — that is, skilled clerical, sales, etc., while the mode for coloured parents was a level lower, namely semi-skilled workers (level 6). Further, a major difference between the Indian and coloured children was in religious observance. While a large majority of Indian children (78%) participated daily in religious services, coloured children attended weekly (53%) or less often. Thus, the Indian sample could be characterised as higher SES on the basis of parents' occupation, and more traditional on the basis of religious observance.

Instruments

Two sets of instruments were used, namely (a) several tasks from the Learning Potential Assessment Device (LPAD) and (b) a set of independent measures of intellectual functioning. Each of these latter measures was selected to assess a comparable ability to its LPAD counterpart, and thus served as a measure of transfer of learning from the LPAD task to an external criterion of modifiability. The measures are described in detail below.

(a) *LPAD (Feuerstein 1979)* Four instruments from the LPAD were used. Each of these instruments comprises a cognitive task involving the mediation of cognitive strategies, and a test for the effects of the mediation on the performance of the task. A detailed explanation and description of the LPAD is to be found in Feuerstein (1979) and in the LPAD Manual (Feuerstein, Rand, Hayward, Hoffman & Jensen, 1983). The particular instruments used here are described below.

Set Variations I and II. These tasks are based on the Standard Progressive Matrices developed by Raven (1958). They comprise modifications of some of the original Raven's items. Variations I and II differ in degree of complexity. The

subject is shown a series of designs and has to supply a missing part selected from a number of alternatives. According to Feuerstein (1979), this tests increasingly complex cognitive operations including analogies, permutations and logical multiplication. Both Variations I and II include a number of subsets of different analogies. Each subset contains an initial task on which training is given, with the other analogies within the subset serving as variations of that training analogy. In the Variation tasks, there are no pretests. Training on the initial tasks involves helping the subject to develop appropriate concepts, verbal tools, approaches and insights in relation to the task. This is followed by scoring of the subject's performance in succeeding tasks within the subset.

Complex Figure Drawing (CFD, adapted from Rey, 1959). This task involves the organisation, structuring and reproduction from memory, of a complex field. The subject is required to draw a complex geometric figure, first by copying and then by reproducing it from memory. After the pretest there is a training (mediation) phase, in which organisational insights and skills, and strategies for remembering detail are fostered in relation to the figure. Evaluation of the copying and recall dimensions is based upon two criteria, namely, number of details correctly placed in proportion (Accuracy Score), and the extent to which a systematic approach is taken in execution of the drawings (Organisation Score).

The Lahi. This task involves immediate memory, concentration and efficiency, and requires subjects to discriminate certain figures from among a range of designs, according to a code presented at the top of the page. In the pre- and posttest sections of the task, a time limit of 10 minutes is imposed and the number of correct identifications marked within that time is assessed. Following the pretest, subjects are helped to develop strategies for remembering the code. A code different from that required for the pretest is then presented in the post-test.

Comparisons. This task involves verbal conceptualisation and reasoning. Subjects are required to make comparisons between two words on each of a number of items. These range from concrete objects to abstract concepts. Subjects have to indicate both the commonality and the difference between the pair. Mediation, which follows the pretest, involves inter alia the development of strategies of comparison including the identification of parameters along which comparison can be made, and recognition of relevant and central criteria for a particular comparison. Pre- and posttests comprise equivalent sets of word pairs.

(b) *Independent Measures of Intellectual Performance.* To determine the extent of transfer of learning on the LPAD to comparable tasks, four independent, external measures were administered. These are described below.

Raven's (1958) Standard Progressive Matrices (RSPM). In this test the subjects are given the original standard progressive matrices, developed and validated by Raven as a measure of non-verbal reasoning, and of intelligence. The designs here are different in content from the LPAD Set Variations I and II described above. In addition, they were administered in the conventional manner, without the mediation given in the Set Variations. Thus we were able to use this test to investigate transfer of learning from the Set Variations of the LPAD.

Equivalent Complex Figure (ECF). This is one of nine equivalent figures developed by Feuerstein (1979) as a measure of transfer from the Complex Figure Drawing (CFD) to comparable complex drawings. As with the CFD, the task involves the organisation, structuring and reproduction from memory, of a complex field. The method of administration and scoring is the same as for the CFD but the drawing itself is entirely different.

Coding (Cod) subtest (Wechsler Intelligence Scale for Children — Revised, WISC-R). This subtest of the WISC-R measures visual-motor dexterity, pencil manipulation, and ability to absorb new material presented in an associative context. The task requires the subject to match and copy symbols in blank spaces provided on the test sheet. In that the nature and requirements of the Coding task resembled those of the Lahi, this WISC-R subtest was regarded as a comparable measure to the Lahi and thus as an indicator of the transfer of learning from the LPAD subtest.

Similarities Subtest (Sims, WISC-R). This subtest forms part of the Verbal Scale of the WISC-R and measures verbal reasoning, conceptual ability and abstraction. Inasmuch as the task requires the subject to determine the commonality between pairs of words, it is similar in form (but not content) to the Comparisons task included in the LPAD battery. It thus provided a measure of the transfer of learning from that task. It also served as an index of verbal conceptual ability.

Procedure

The independent transfer measures were administered to the subjects a week before and two weeks after the administration of the LPAD. The tests were administered and scored by a graduate student not involved in other aspects of the study.

The LPAD itself involved about six hours of interaction between each subject and a mediator-examiner. Four of the six hours constituted individual subject/examiner interactions, while a two-hour group session was held for 15 subjects at a time. The Set Variations I and II were presented in a group setting, since group interaction in these tasks is regarded as facilitating the mediation. The other LPAD tasks were presented to each subject individually, thus affording the opportunity for an intensive interaction between tester and subject.

Two experimental and two control subjects were randomly assigned to each of 30 psychology students, who served as the mediator-examiners, and carried out mediation and testing on each of the three individually administered tasks (namely the Complex Figure Drawing, Lahi and Comparisons). The Set Variations I and II were administered by a psychologist to all the groups. All mediator-examiners had been exposed to training in the implementation of the LPAD. Although examiners could obviously not be "blind" to the racial group or experimental condition of their subjects, they were unaware of their academic status.

The critical distinguishing variable between experimental and control groups was the mediation provided to the experimental subjects. Mediation involved the development of an appropriate learning relationship between mediator-examiner and subject in terms of Feuerstein's (1979) principles of MLE. It was also applied to the planning, learning and execution of specific strategies required for dealing with each of the tasks presented (see Feuerstein et. al., 1983). The examiner-mediator adopted a teaching stance and promoted a learning set in the students. He/she attempted to communicate to the students the value and significance of the task, and led a discussion on the principles underlying these tasks, and an exploration of their application beyond the immediate situation, to a broader range of tasks and situations. In addition, by being given encouragement, and specific and realistically positive feedback regarding their performance, the subject's sense of competence was addressed and fostered.

An important consideration was the mediator's observation of the individual subject's specific cognitive deficiencies and strengths in the pretest phase, and/or the early stages of the training phase, which guided the specific approach taken to the mediation of that individual. The posttest phase of the LPAD instruments afforded an opportunity for assessment of the subject's mastery and generalisation of the principles and approaches imparted. Further, the independent measures of cognitive and affective functioning provided a basis for gauging the transfer of experiences and learning on the LPAD to other relevant tasks.

The control (C) subgroups were also exposed to the pretest, training, and posttest phases of the LPAD. However, this mediator-examiner's input for this condition served only to explain the task to the subject. After he/she was assured that the subject understood the directions for the task, the examiner remained neutral to but supportive of the subject's performance. Since subjects in the C subgroups received the training part of each instrument without mediation, this condition provided a control for the effects of added exposure to and practice on the task. A great deal of effort was taken to control for non-specific effects on learning. Thus, both experimental and control subjects spent an equal amount of time with the testers. The time of exposure to the materials was also the same, as was the time spent in a group and one-to-one situation.

RESULTS

The design was a classical pre-posttest design with academic performance, racial (cultural) group, and experimental/control group as independent variables, and both the transfer measures and the LPAD tasks themselves as dependents. Results for the transfer measures and for the LPAD are presented separately in the two sections that follow.

Analysis of Results on the LPAD

Using standard analyses of covariance, the main and interaction effects were examined for the Lahi, Complex Figure Drawing (CFD) and Comparisons subtests of the LPAD. For the Variations I and II, where there were no pretests, analysis of variance was used. Results are presented in Table 1.

As demonstrated in the table, a main group effect was obtained on the production and memory dimensions of the CFD on the Set Variations II. Thus, on these LPAD tasks, the experimental group benefited from the mediation provided. However, no significant differences were found between the experimental and control groups on the Set Variables I, the Lahi or the Comparisons subtests.

Apart from producing a main effect for group, Variations II also produced main effects for race and academic performance. With regard to race/cultural group, Indians performed better than coloureds (adjusted mean of 41.32 versus 36.47), while the high academic status students scored higher than the low

academic status students (adjusted mean of 44.53 versus 33.27). Thus, exposure to the Variations II, whether mediated or not, was more effective for the Indian than the coloured sample, and more effective for the higher than the lower academic status students.

Table 1

F Values for Results on the LPAD by Race, Group and Academic Status

Variable	Complex Figure Drawing			Variations	
	Memory(Org)	Memory(Acc)	Production(Acc)	I	II
Race/ Culture					
(A)	0.01	0.01	0.67	1.32	6.85*
Group (B)	9.43	0.76	11.10**	1.48	4.56*
Academic Status (C)	6.20*	4.72*	0.13	28.42***	27.16***
Race × Group	0.90	0.30	0.38	0.14	0.43
Race × Academic Status	0.22	0.07	0.07	0.06	0.02
Group = Academic Status	0.12	0.79	1.67	0.43	0.09
A × B × C	2.09	0.49	1.45	0.06	2.09

Note: $df = 1,107$

Org= Organisation score; Acc= Accuracy score.

Where there were no significant values, measures were omitted.

* $p < .05$; ** $p < .01$; *** $p < .001$

Effects of Mediation on the Transfer Measures

Table 2 provides a comparison of pre- and posttest results (means and standard deviations) for each of the variables, namely group (experimental versus control), academic status (low versus high) and race, (Indian versus coloured).

Table 2

Pre- and Posttest Means and Standard Deviations for Transfer Measures
by Group, Academic Status and Race

Measure	E		C		HAS	LAS	HAS	LAS	Indian		Coloured	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
RSPM												
X	46	49	47	49	50	53	43	45	49	51	44	48
SD	8	7	6	6	5	4	8	6	6	7	8	6
ECF(ACC)												
X	30	32	30	31	32	32	29	31	30	31	20	32
SD	5	4	5	4	4	4	5	4	4	4	5	4
ECF(ORG)												
X	4	6	4	5	6	5	4	5	4	4	4	5
SD	1	1	1	1	1	1	1	1	1	1	1	1
COD												
X	51	63	53	62	53	67	52	58	58	65	48	61
SD	12	11	13	13	11	11	13	11	12	10	10	13
SIMS												
X	20	23	20	22	22	25	17	20	20	24	10	22
SD	5	5	6	5	4	4	5	4	5	4	6	5

Note: Corrected to whole numbers.

Experimental (E) versus Control (C). As can be seen in Table 2, the slight but consistent tendency for C's initial scores to be higher than those of E contrasted with the slight but consistent tendency for E to score higher than C following intervention. There was thus a general and overall tendency for E to improve slightly more than the control group.

High Academic Status (HAS) versus Low Academic Status (LAS). Table 3 reflects a consistent tendency for the HAS group to perform better than its LAS counterpart, both prior to and after intervention. Apart from those on the Coding (Cod) test, the initial differences in favour of HAS were significant in all cases. Thus, *t* tests for independent groups indicated that, for the Raven's Matrices (RSPM), $t(df\ 106) = 5.6$, $p < .0001$; for the Equivalent Complex Figure

(ECF) (Accuracy), $t(df\ 106) = 3.7$, $p < .001$; for ECF (Organisation), $t(df\ 106) = 5.2$, $p < .0001$.

Indian versus Coloured. From Table 3 it can be seen that the Indian group started higher in all areas than the coloureds. These initial differences were found by means of t tests to be significant in three out of five cases, namely on the ECF (Organisation), where $F(df\ 106) = 2.0$, $p < .05$; on the RSPM, $F(df\ 106) = 4.1$, $p < .0001$; Coding, $t(df\ 106) = 4.8$, $p < .0001$.

To examine the effects of intervention on the transfer measures for E versus C, HAS versus LAS, and for the Indian versus the coloured group, as well as the interaction among these variables, standard analyses of covariance were performed. These results are presented in Table 3 below.

Table 3

F Values for Results on the Transfer Measures by Race, Group and Academic Status

Variable	Equivalent Complex Fig				
	RSPM	Acc	Org	Coding	Similarities
Race/ Culture					
(A)	7.02*	0.00	6.90*	1.59	4.82*
Group (B)	0.67	0.01	0.00	0.48	1.07
Academic Status (C)	14.66***	5.20*	0.00	16.92***	9.98**
Race \times Group	1.88	0.71	0.02	10.43**	0.05
Race \times Academic Status	5.14*	0.03	0.77	0.37	8.33**
Group \times Academic Status	0.52	2.16	2.10	0.17	4.04*
A \times B \times C	1.12	3.29	0.32	2.35	0.81

Note: $df = 1.07$

* $p < .05$; ** $p < .01$; *** $p < .001$.

As can be seen from Table 3, certain significant main and interaction effects were found on the Similarities, Coding and RSPM. There were also certain main effects found on the two dimensions of the ECF. None of the transfer measures yielded a group effect; that is, in no case was the result for the total E group significantly better than for the C group.

On the other hand, there were certain interaction effects. Of note in this regard was the fact that the Indian E group performed significantly better on the Coding test than their C counterparts. The adjusted mean for the former was 64.3 and for the latter, 56.9; $F(1.53) = 10.43$, $p < .01$. Thus for the Indians, mediation appeared to have been effective in improving functioning on the Coding test. This was despite the fact that the Lahi — the LPAD task with which the Coding was paired — did not yield significant results. Also, there was a non-significant trend ($p < .08$) for the high academic status individuals in the Indian and coloured E groups to score higher on the Similarities test than their counterparts in the C groups. Mediation on the Comparisons task of the LPAD, while not producing a significant improvement on the Comparisons test itself, thus apparently tended to benefit performance on its Similarities transfer measure for the high academic status students. For the coloured group in particular, the higher posttest score achieved on the Similarities by the high academic status E group in relation to their C counterparts approached significance; adjusted mean for E = 26.13, for C = 23.25; $F(1.26) = 3.13$, ($p < .06$). This suggests the benefits of mediation on the Comparisons subtest for the high academic coloured group in particular.

Thus, in summary, mediation had no effect for the total sample on any of the transfer measures. It did, however, have an effect for the Indian group on the Coding subtest and tended to affect the performance of the high academic status subgroup on the Similarities subtest. Mediation also produced near-significant results for the coloured high academic status students on the Similarities subtest.

While the experimental/control group variable did not yield a main effect, the academic status and race variables did. Regarding academic status, Tables 2 and 3 together show that on all the transfer measures, a significant difference was found in favour of the high academic status group. This indicates that those who initially performed better benefitted more from exposure (both mediated and non-mediated) to the materials than their weaker peers.

So far as race was concerned, its effect was significant on three out of the four measures, namely the RSPM, the Equivalent Complex Figure, and the Similarities test. Adjusted mean scores for the Similarities revealed that Indians ($N = 23.35$)

scored significantly higher than coloureds ($N=21.62$), while on the RSPM coloured subjects changed significantly more following exposure (mediated and non-mediated) to the LPAD than the Indians, (adjusted mean for Indians = 48.34; for coloureds = 49.97). The coloured subjects also improved more than the Indians on the qualitative dimension (Organisation) of the Complex Figure (adjusted mean = 4.82 for coloureds; 4.29 for Indians).

Since the RSPM percentiles are based on British norms, the analyses here were conducted on raw scores. This presented a limitation, in that the ceiling for the RSPM is relatively low and a slight improvement in raw scores might constitute significant percentile changes. The conversion to percentiles of the mean scores of each of the subgroups did in fact present an interesting clinical picture, as is demonstrated in Table 4 below.

Table 4

Mean Pre- and Posttest Percentile Ranks on Raven's Standard Progressive Matrices (RSPM) for Coloured and Indian Students

	Coloured				Indian			
	HAS		LAS		HAS		LAS	
	E	C	E	C	E	C	E	C
Percentile Rank Before Intervention	62	75	25	40	90	95	69	56
Percentile Rank After Intervention	87	87	55	55	95+	95+	62	56
Difference	25	12	30	15	5	0	-7	0

From the above table it can be seen that the high academic status coloured group improved on the RSPM from an Average to an almost Superior level, bringing them in line with their Indian counterparts. Similarly, the low academic status coloured group improved from below average to average, also bringing their scores closer to those of their Indian counterparts. Further, while exposure to the RSPM was apparently beneficial for both the coloured experimental and

control groups, (as opposed to the Indian groups, who functioned from the outset in line with their academic status) the coloured *experimental* subgroups — both high and low academic status — appeared to improve twice as much as their respective control subgroups.

DISCUSSION

Although mediation was not generally effective in producing change on the transfer measures, on certain of the tests there was a mediation effect in interaction with the variables of academic performance and cultural/race group. Thus, the results on the Similarities test suggest that the group that benefitted most from mediation was the high academic status coloured students. Indeed, conversion of the mean Similarities raw scores to scaled scores reveals that, whereas the scaled score of the coloured experimental subgroup moved from Above Average (13) to Superior (16) following mediation, the control subgroup's score remained at the same, Above Average, level.

The clinical picture was also noteworthy on the RSPM. On this transfer measure, an apparent improvement was reflected for the coloured but not for the Indian group; that is, for the group which performed more poorly in the first place and which can be assumed to have been more deprived of MLE. Stimulation and learning opportunities in themselves may be expected to have value in such situations. Over and above the tendency to improvement for the mediated and non-mediated (E and C) groups, however, there was a consistent tendency for the experimental subgroups to demonstrate greater improvements in percentile standing relative to their control counterparts. This suggests the potential value of mediation per se. Significant results might in fact be obtainable if percentile ranks, based upon a South African standardisation, were used as the basis for statistical analysis.

From another viewpoint, findings on the RSPM suggest that, where deprivation of MLE has occurred, even culture-fair tests such as this one are not likely to be reliable or valid measures of potential and that, conversely, appropriate training on the measures, particularly when a mediational approach is used, may serve to better reflect individual potential.

On the LPAD itself, the immediate effects of mediation on the tasks themselves were evidenced across all the experimental subgroups for the Variations II and the Complex Figure Drawing. In the case of the letter, there was no

transfer to an equivalent figure (that is, to the ECF). Conversely, while there were no mediation effects demonstrated on the Lahi or the Comparisons, some of the effects of mediation were indirectly evidenced in improved performance by certain of the experimental subgroups on the respective transfer measures, namely Coding and Similarities. In particular, mediation on the Lahi appeared to benefit the Coding test performance of the Indian but not the coloured group; again, the Similarities subtest results of the high academic status coloured but not the Indian group appear to have been affected.

Apart from the limitations inherent in using the RSPM raw scores as discussed above, certain other methodological factors may have militated against more consistent and clear cut results. In particular, the fact that a large number of undergraduate psychology students were employed as testers with relatively little training in the LPAD must be considered a source of error. The LPAD is a complex instrument to administer and requires extended training. Moreover, it is possible that because of the requirement that testers interchange mediation and withdrawal of mediation, testers were confused and the two conditions were contaminated. For it should be remembered that experimental and control subjects were exposed to the same tasks by the examiners. It might have been difficult for students to withhold mediation, once they had been trained in mediational approaches. On the other hand, the relatively positive results obtained using a wide range of sub-professional students bodes well for the practicability and effectiveness of introducing brief-term intervention methods with these children.

The assumptions and expectations underlying this study were partially fulfilled. Firstly, mediation on certain tasks of the LPAD was effective in improving performance. Secondly, the effects of mediation provided by the LPAD did, in some instances, generalise to performance on comparable measures. Thirdly, the coloured racial group, which initially functioned significantly lower than the Indian group on the transfer measures, tended to be more greatly affected by mediation.

The high academic status groups tended to benefit more from mediation than their low academic status counterparts. This, taken in conjunction with the fact that academic status generally was a more significant variable than group (experimental versus control) in determining performance, underscores the importance of basic intellectual ability or academic aptitude in affecting the individual's ability to benefit from mediation. The findings suggest that, apart from the general value of providing opportunities for enrichment of those in

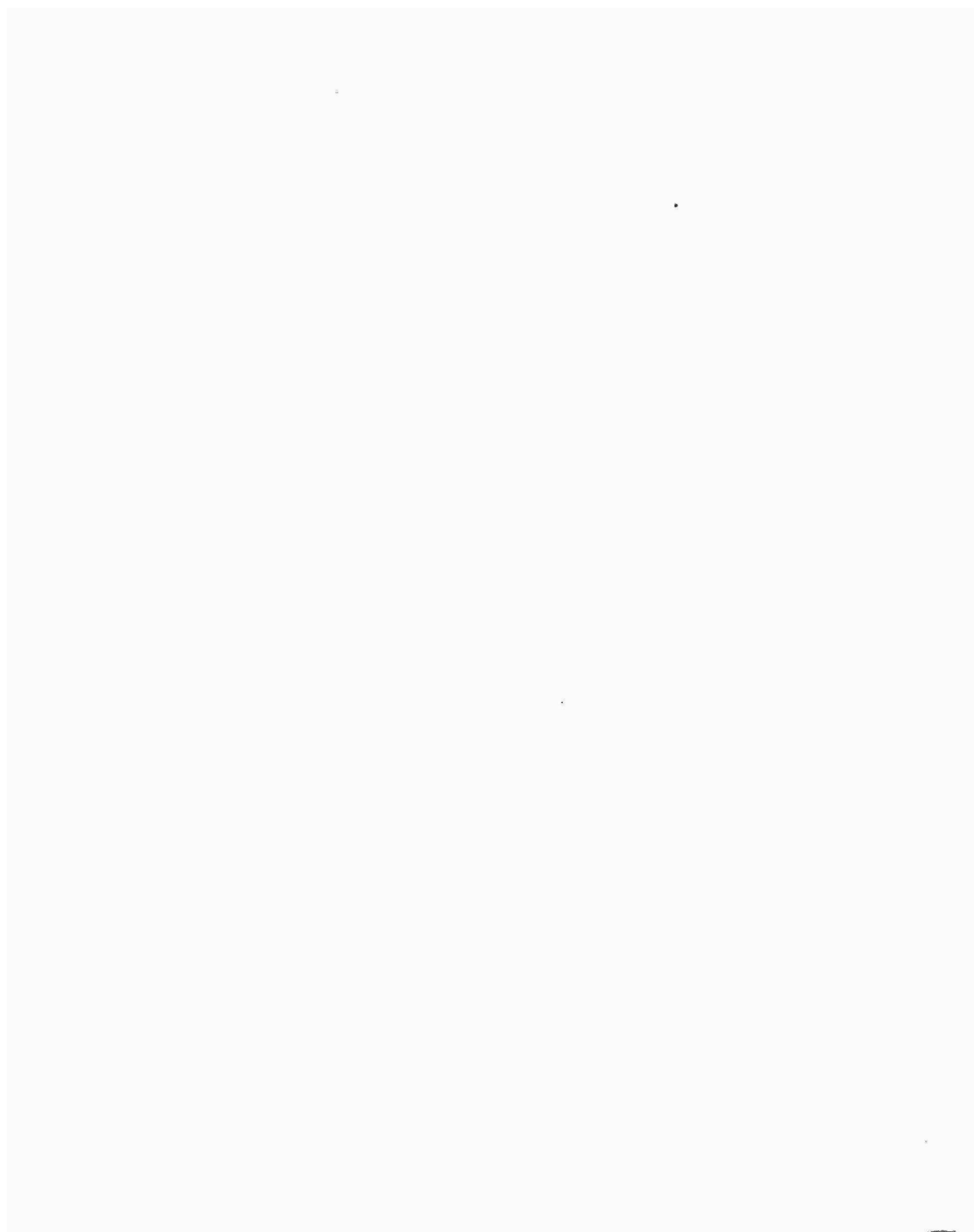
disadvantaged communities, the benefits of affording special programmes for children in such communities who demonstrate outstanding academic performance, despite their environmental disabilities, might be given some consideration.

In conclusion, the LPAD and the concept of MLE appear to provide a valuable avenue of research and practice in the assessment and enrichment of sociopolitically disadvantaged groups in South Africa. Further studies thus need to be conducted of the effectiveness of the LPAD and of the value of implementing extended enrichment programmes using MLE principles. In this connection, because they constitute about 75% of the population, and considering that they are the most severely disadvantaged group within the society, it is primarily with the Bantu-speaking, or black people of South Africa that these studies should be concerned.

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SPECIAL EDUCATION IN PAPUA NEW GUINEA: AN OVERVIEW

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This paper examines the present status of special education in Papua New Guinea, a developing country in the South Pacific. Responses from all the special education centers which provide services to both children and adults are presented, with a focus on staffing, training, client demand, financing and government involvement. Finally the issue of the future of special education in Papua New Guinea is addressed.

Introduction

Special Education, which in its broadest sense refers to materials, methods and facilities that are designed to meet the special needs of the handicapped (Wyne & O'Connor, 1979) is relatively new to Papua New Guinea (PNG).

As a result of Western and particularly Australian influence, there now exists a flourishing formal education system ranging from primary to university level. Whilst Universal Primary Education is as yet a goal to be achieved (Burmeister, 1981) it is at least an explicit priority of government planning. However it would appear that those in need of special education may well have to rely upon the generosity of various charities, both national and international. At present no centre is supported wholly, or even mainly, by government monies.

It is arguable that special education in any country, and especially one with limited resources, should be the responsibility of the family. This position is endorsed by much that happens in PNG, with its strong tradition of village and family life. Special education centres are a newly established phenomenon, almost exclusively centred in the larger towns of the country. It can be seen from Table 1 that the two towns of Port Moresby (the capital) and Lae contain fifty percent of the centres. Further, special education in the formalised sense, is a new concept. Of the fifty centres listed in the 1986 bulletin of the National Board for the Disabled the longest established is the Cheshire Home School with twenty years service. Nine centres are less than 7 years old.

Traditional Attitudes Towards the Disabled

In PNG, historically the family and the village cared for their handicapped and took their caring responsibilities seriously. Until recently handicapped children born in traditional village societies were likely to die during their early years. Those who survived were usually taken care of within the extended family system, a social structure still evident especially in rural areas. Thus it is reasonable to conclude that, in the past, there was no need for special education as the disabled were being cared for by the members of their extended families.

However since the colonial era in PNG major changes have taken place, in particular the creation of a formal education system and the phenomenon of urban drift; the latter being a recognised characteristic of developing countries throughout the world.

With these changes and the establishment of a sophisticated government bureaucracy a general concern has developed for the nation's citizens. This inevitably includes those who are disabled in some way.

Special Education in Contemporary Papua New Guinea

The whole question of who cared for, and who should care for, the disabled was discussed at the first meeting of the National Board for the Disabled in September 1978. The general view was that PNG had a tradition for caring for its disabled, based upon the extended family. Centres were a modern, essentially urban development, where basic skills could be taught e.g. health and hygiene. In other words centres would have an educational component wherever appropriate, rather than simply caring or custodial roles.

In PNG the existing special education institutions are both run and almost wholly maintained by voluntary agencies. To date there are no specific programmes developed within the regular school system to meet special education requirements.

Government Involvement in Special Education

The government provides relatively little support towards the services for handicapped children. The following statements illustrate various contemporary policy positions:

"The government is at present in no position to make any substantial commitment towards the education of physically and/or mentally handicapped children (. . .) initiatives will have to be left to private, religious and charitable organisations and local communities" (PNG Education Plan 1975, p.107).

The 1978 Review Committee made a similar comment:

"In the past, the government has not been able to assist with the education of such children and has had to rely on the assistance of private agencies and religious, charitable and local bodies" (Rogers 1979, p.117).

This view was confirmed by Ivey (1983):

"The Department of Education has no formal policy in this area. Until universal primary education becomes closer to fulfilment, our first priority must be in expanding educational opportunities for rural children who do have access to formal schooling. If a province decides to provide a facility for handicapped children it could do so, provided it has the funds available to support it. In fact the national government has no plans in the immediate future for assisting provinces in providing such facilities" (p.26).

Government Funding of Special Education

This has been inconsistent in terms of quantity and has also varied in the form in which it was administered. Most recently a grant of K120,000 was made available through the Health Department for which applications were made by the various centres. However continuity of provisions is lacking. In 1986 the Red Cross School found no further grant was available, a situation with which other centres were also confronted. What gave rise to concern from the headmaster was that no prior warning of the potential deficit had been offered. Such treatment in such a critical area as finance can only have a negative impact upon those working in the field. Other centres were also confronted with similar problems without prior warning.

Reasons for the Low Priority of Special Education

There is no doubt that, in practice, special education is a low priority area within PNG. The reasons for this are multiple, relating to the country's developing status, the utilitarian priorities of a third world nation with its inevitable shortage of financial resources and the tradition of caring for the handicapped members of society through the extended family system.

The situation was summarised by Poha (1977) as follows:

"The Department of Education's current five year plan places the education for handicapped children in the low priorities. There are valid reasons why this has been done. In PNG a strong extended family system provides security for handicapped relatives. They are regarded as part of the community and some even make positive contributions to the community. They are never looked down on as unwanted outcasts. The system itself is and has been very effective" (p.2).

Hence with such a traditional and well-established support system available to them successive governments have not seen special education and care of the disabled as a matter of urgency.

The National Board for the Disabled

The board was set up in 1978 to act as an intermediary between government and the voluntary bodies serving special education. It fulfills an advisory role and dispenses information to agencies as well as demands to government. However it lacks executive authority and sees its major function as the co-ordination of the activities of the various government and non-government bodies providing services to the disabled.

Special Schools and Units in Papua New Guinea

In spite of a lack of major government support for special education, facilities are provided throughout the country, run and funded by voluntary organisations. These facilities offer a range of support from caring for the severely disabled, such as those with congenital brain damage, to education and training for those able to benefit from them.

Table 1 below shows the organisations, their locations, the type of clients they serve and the number of residents and non-residents they can service at any one time.

The East New Briton pilot project, using existing health personnel, provides a community based rehabilitation programme for the disabled within the province. This is a pioneering attempt to provide professional care within the community context, rather than isolating the clients on either a resident or non-resident basis within special centres. Such initiatives are extremely rare, not only because their structure but because they necessarily involve their provincial governments.

The Madang Creative Self-Help Centre was started in 1970 to encourage handiwork amongst those permanently disabled. The centre ceased to operate in 1984 but handicraft work is still taught within the physiotherapy department of the Madang General Hospital.

Patterns of Services

Within the institutions listed above four provide services which are primarily educational: these are the Port Moresby and Lae Special Education Centres, the Cheshire Home School for the Handicapped in Port Moresby and Mount Sion Centre for the Blind in Goroka. Other facilities such as the Port Moresby and Lae Sheltered Workshops and the Saint John Association for the Blind include an educational component with a training orientation within their programmes.

These last three are located within or adjacent to hospital environments enhancing the support services available to their clients.

Table 1

Special Education Centres, Their Location and Type of Disabled Population Served

Organisation	Location	Type of Disability	No.	Residential	Non-Residential
Helen Keller International	Goroka	Visually Impaired	8		✓
Mt. Sion Centre for the Blind	Goroka	Visually Impaired	15	✓	
Associations for Homes for Disabled	Lae	Spinal Injuries	14	✓	
Handicapped Childrens Association	Lae	Disabled Children	64		✓
Lae Sheltered Workshop	Lae	Disabled Adults	47		✓
Handicapped Childrens Group	Mt. Hagen	Disabled Children	12		✓
Cheshire Homes	Pt. Moresby	Disabled Children	23	✓	
Red Cross Special Education Centre	Pt. Moresby	Disabled Children	118		✓
PNG Rehabilitation Centre	Pt. Moresby	Spinal Injuries	4	✓	
St. John Association for the Blind	Pt. Moresby	Blind Adults and Children	5		✓
Port Moresby Sheltered Workshop	Pt. Moresby	Disabled Adults	22		✓
Rumginae Health Centre	Rumginae	Mainly polio	50	✓	
Sacred Heart Monastery	Wewak	Disabled Men	5	✓	
Total			387	111	276

Staff and their Training

Because of the low priority accorded to special education, there is minimal input from the government in terms of staff training. This position was explained by the Chairman of the National Board for the Disabled in terms of demand creation. It was felt that the need for training institutions in PNG was minimal because of the small numbers of the population in need of special education.

Further the creation of such programmes would heighten the demands on the limited resources in terms of finance, manpower and equipment (Ilage, 1986).

Whilst many of the full-time staff and volunteers have a professional background such as nursing or teaching very few have received specific training to enhance their function within special education. Exceptions to this are three physiotherapists from centres in Port Moresby who attended a six month course in Fiji. One teacher of the deaf received a two-year course of training in New Zealand and another had been on a three-month course in Indonesia.

Short-courses and workshops are conducted in the National Sports Institute in Goroka from time to time by overseas personnel engaged in the area of special education. However there is no systematic training in basic rehabilitation techniques for those involved in clients requiring special education. It is probably fair to say that much training appears to be the accidental result of experience following a vocational choice to serve in the field. For example the Rehabilitation Officer and Warden of one major centre received a two-week induction course in Australia and after that learned through on-the-job experience.

A further contributing factor to the problems faced by special education is that lack of support from official sources combined with a lack of easily identifiable training programmes makes the field relatively unattractive to potential staff members. Those Papua New Guineans with sufficient vocational commitment to enter the field are unfortunately faced with difficulties caused by lack of funding for both expertise and equipment.

Does Papua New Guinea Need Special Education Facilities?

Those engaged in the area of special education, their clients and their clients' families unequivocally support the need for special education in PNG. This appears to be in marked contrast to the official view of special education which limits practical support to minimal financial input. Governments of PNG have committed themselves to establishing Universal Primary Education, what they have avoided is committing themselves to supporting special education in equal measure.

The argument that by providing facilities within special centres parents will neglect their traditional responsibilities is a difficult one to dismiss. However the phenomenon of urban drift to the major cities of PNG such as Lae, Goroka and Port Moresby has seriously altered the degree of support available from the extended family. These new urban dwellers, if they have handicapped children,

are no longer able to turn to aunts, uncles or their parents for active help. It was suggested by many of the interviewees that special education centres are filling this critical void. If this is so, and it is difficult to refute, then for that reason alone special education is making a valuable contribution to the urban well-being of PNG.

The Funding of Special Education in Papua New Guinea

The organisations offering special education services depend for their survival upon a variety of financial sources. The survey revealed a remarkably wide range of funding from charitable origins; a range sufficiently large as to be inappropriate to include it its entirety. However in summary monies were forthcoming from:

- (a) the general public
- (b) service clubs
- (c) local schools and companies
- (d) international companies
- (e) missions and churches
- (f) commercial houses (e.g. banks)
- (g) international associations for the handicapped (e.g. Royal Commonwealth Society for the Blind)
- (h) international charities (e.g. Rotary, Lions)
- (i) foreign government agencies and embassies (e.g. West Germany, New Zealand and United States of America).

Whilst it was not possible to obtain detailed breakdowns of the funds made available to each centre the Red Cross School serves to illustrate the degree of support being received by special education in PNG. Of the K75,000 needed to balance their 1985 budget, ninety percent came from charitable sources. Due to a change of government policy in 1986 this amount increased to one hundred percent.

The Future of Special Education in Papua New Guinea

The future directions of educational services for disabled children in PNG are uncertain according to those who are and have been engaged in the area. However a number of key factors will affect any options available.

These factors include the role to be exercised by voluntary agency facilities and the extent to which the community school systems can make provision for disabled children.

Cultural factors will also have a major role to play in determining the acceptability of some proposals because it is necessary for programmes to take into account, for example, geography and societal preferences.

A factor of significance to agencies involved with the disabled will be the relative priorities placed on prevention, intervention, and education services by the policy-makers of PNG.

The question of how best to assist handicapped children in PNG involves decisions of a medical, social and political kind (Harris & Helai, 1981) as well as those relating to financial and educational issues. How can funds be spent on medical, educational and welfare projects for the handicapped when, to do so would diminish the already scarce resources available to the nation's education system?

In spite of the optimistic tone set in a recent article (Wiesinger, 1986) and of the many positive comments broadcast by the special education symposium held in PNG half a decade ago (Papua New Guinea Journal of Special Education, 17(2), 1981) the present situation of special education in PNG does not appear favourable.

The institutions and centres are constantly faced with a struggle to obtain adequate funding. This in turn detracts from the quality of service which clients can be offered.

However the demands upon the institutions in the urban centres are increasing rather than decreasing. This is significant not only for the dedicated and over-worked staff but for the traditionally accepted view that, in PNG, the extended family 'will provide'. For the new urban dwellers, separated from their villages by both distance and life-style, this may no longer hold true.

The voluntary component of many staffs is both heartening and worrying. Whilst indicating concern translated into action, it also indicates there are insufficient, full-time, trained professionals. Of far greater concern is the apparent lack of any official move to initiate a training programme for special education staff. This particular point was highlighted in all of the interviews and questionnaires relating to the special education centres referred to in this paper. It is clearly a major preoccupation of the national staff working in special education that there is no indigenous training programme.

Whatever the reasons for this lack of official interest, it is suggested that until the government's attitude towards special education in PNG changes, the centres will continue to struggle to survive.

That special education is surviving at all is a mark of the generosity of the fund-raisers both national and international, the value attached to the service by the clients and their families and, above all, the dedication of the staff themselves.

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**COMPARISON OF SOCIO-MORAL JUDGMENTS
OF HUNGARIAN REGULAR AND SPECIAL
SCHOOL STUDENTS IN GRADE TWO**

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Bábosik and Biró (1980) investigated the development of moral knowledge of 18,871 students attending regular schools. This study by using the Bábosik and Biró instruments replicated their study with children attending special schools. The first part of the study with grade two children, reported here, found that the responses of children in segregated special schools when confronted with a moral dilemma compared favourably with the answers of non-handicapped children. Significant differences occurred on Task 4 and four aspects of Task 6. Overage children in auxiliary schools, schools for the behaviourally disordered and the hearing impaired had greater problems in making socio-moral judgments.

In socialist countries, unlike in North America, moral education is a prescribed subject, an integral part of the school curriculum. Its aims are, according to Bábosik and Biró (1980) to shape enduring attitudes which serve the goals and needs of society by regulating individual behaviour in a predictable manner. During his schooling the student learns to recognize, accept and identify with the expectations of society and to incorporate these in his own value system.

The Hungarian Ministry of Culture's Public Schools' Plan for Education and Upbringing, (Hungarian Peoples Republic, 1981) states the aims of moral education as:

"laying the foundation of the development of the socialist personality in the integrated fields of cognition, world view and attitude . . . developing the moral characteristics of the socialist person, patriotism and internationalism, respect for work and working man and collective attitudes" (p.15).

Starting in grade three a special time (32 hours per year), is set aside for the "homeroom teacher's class" which becomes the forum for the student's collective life based on Marx's thesis that the collective offers the optimum potential for individual personality development (Majzik and Hankovszki, 1980). This class focuses at the formation of children's collectives, the appropriate relationship of the individual to the collective and to society, and the shaping of the socialist morality and attitudes of the students (Majzik and Hankovszki, 1980). Several Hungarian authors have addressed the pedagogical implications of the school's explicit goals in moral, political and collective or community education (e.g. Bábosik, 1975; Bábosik and Biró, 1980; Biró, 1976; Hunyady, 1970; Illyés, 1969; Kelemen, 1958; Pataki, 1976; Petrikás, 1975) as well as Soviet authors, among them Bozhovich, 1966, 1974, 1976; Konnikova, 1974; Kurakin, Mudrika and Novikova, 1970; Makarenko, 1956; Maryenko, 1969; Novikova, 1970; Suhomlinskiy, 1971; Vigotsky, 1926, 1967.

The instruments and the methods used in assessing socio-moral development through cognitive judgments has been the preferred method of investigation (Kohlberg, 1981; Biró, 1976; Hunyady, 1977).

Bábosik and Biró (1980) designed and used instruments to investigate the development of moral knowledge of 18,871 regular school students. They accepted the premise that moral behaviour is predicated by moral cognition based on moral experience and according to the conceptual framework of these authors moral behaviour only occurs when moral knowledge and the ability to recognize, analyze, solve and evaluate a problem are present. Bábosik and Biró, (1980) use the term "moral" cognition, judgment and behaviour in a general sense without considering Turiel's (1980) distinction between moral and social cognition. Since their work addresses both spheres of cognition, this

paper will use the term "socio-moral" to better communicate with readers used to this distinction.

Their large scale study addressed itself to the evaluation of students in regular school, leaving out the large student population in segregated special education schools. The curricular aims for moral education for special education students do not differ from those of the regular students (Vinczéné Biró, 1979). The goals of the "homeroom teacher's class" (Ösz Szabó and Szatmári, 1979) clearly states:

"the development of children's collective and individual personality, the shaping of appropriate individual attitudes toward the collective and society, the inculcating of moral characteristics and interiorization of attitudes which result in socialist viewpoint, appropriate relationship to work and to recreation . . ." (p.47).

The time allotment is the same as in the public schools. Yet one may expect that segregation from the regular school and the cognitive and perceptual difficulties these students may experience could have an influence on socio-moral development. Hunyady's (1977) research indicated that children in regular schools in the least favourable situation developed less successful relationships with their collective. Most of these children came from lower socio-economic groups not unlike the largest group of handicapped students, the mentally retarded. Bábosik and Biró (1980) also reported that over-age children in regular senior elementary classes showed definite retardation in moral development.

In order to investigate differences and similarities in moral development between children in regular and special schools the Bábosik and Biró study was replicated with special school populations using the instruments designed by these authors. The following questions were raised: Are there differences in the moral development of handicapped children who are educated in segregated schools? If there are differences, are these differences present at an early stage or at a later stage of schooling? Consequently this investigation, like Bábosik and Biró's consists of two parts: (1) the evaluation of socio-moral judgments of grade two handicapped children, and (2) the evaluation of handicapped children in grades 6, 7 and 8.

This report describes the results of the first part of the study with handicapped children in grade two as subjects.

METHOD

1. Subject

The subjects of this study were 584 grade two children, 346 boys (59.2%) and 238 girls (40.8%) attending 35 special schools in Hungary. The majority of subjects, 419 (71.7%) attended 26 special schools in the capital and 165 (28.3%) came from 9 schools from cities across the country. The ages of the children ranged from 7 to 14 years with almost half of the subjects being 9 (45.7%) years of age. Nine and 10 year olds combined accounted for 68.4% of the subjects.

The distribution of subjects per handicapping condition and school affiliation is shown in Table 1. Table 2 indicates the age and sex distribution per school category.

Table 1

Distribution of Subjects per Handicap and School Category

Category	Number	Percentage
Auditory handicap		
hard of hearing	35	5.9
deaf	55	9.3
Visual handicap		
visually impaired	41	7.3
blind	18	3.0
Orthopaedic handicap	22	3.7
Behaviour disorder	59	10.0
Mental handicap	354	60.8
Total	584	100%

In order to avoid categorical confusion children with multiple handicaps were not selected for study. All children who were present in class on the day of the assessment in the 75% of the special schools, representing urban and rural areas, were subjects of this study.

Table 2

Age and Sex Distribution per School Category

School Category	Auditory		Visual		Physical		Behaviour		Mental		Total Handicap	
Sex Age (years)	M	F	M	F	M	F	M	F	M	F	M	F
7-8	2	3	5	6	0	3	10	6	55	39	72	57
9-10	41	29	20	24	14	5	19	18	150	82	242	158
11 11	9	4	5	1	0	0	2	4	15	13	31	22
Sub Total	52	36	30	31	14	8	31	28	220	134	347	237
Total	88		61		22		59		354		584	
Percentage	11.0%		9.3%		3.7%		8.0%		68.0%		100%	

The majority of over-age children were in schools for children with auditory and mental handicaps.

2. Procedure

(a) Instruments used

The Bábosik and Biró (1980) instruments were used in this study. Their reliability and validity for the given age group were established by the authors in a series of pilot studies. They consist of seven task sheets and with the exception of the seventh sheet which has two stories and no drawings: all the others have drawings and one story.

The first task as well as the second and third tasks require the recognition of a moral concept and the application of the moral norm related to this situation. Task 1A is illustrated here in a reduced form.

The story depicts a concrete situation and the student has to indicate the moral concept which best describes the behaviour. The positive adjective and its antonym are presented among two positive and two negative adjectives which are closely related to the appropriate and inappropriate term but which require a finer discrimination and are not related to the content. So the student has six adjectives to choose from to describe the moral concept related to the behaviour presented in the story. The student was expected to recognize the

following concept pairs: polite-rude, brave-scared, helpful-selfish. To solve the task the student has to indicate the characteristic of the moral concept by recognizing the relationship between behaviour and the descriptive adjective and to associate it with the appropriate (1B) and inappropriate (1A) behaviour. Furthermore the student is requested to indicate the correct behaviour (1C). Since grade two children may know moral rules which they are unable to verbalize, the list of adjectives was provided. The knowledge of the moral concept and moral norm and its application to a concrete example was measured by this procedure. The children on the first three tasks had to judge the behaviour of two children, one appropriate (1B, 2A, 3A), one inappropriate (1A, 2B, 3B) and to indicate the correct behaviour (1C, 2C, 3C). The student was expected to: recognize the following concept pairs: polite-rude (Task 1), brave-scared (Task 2), and helpful-selfish (Task 3). The fourth task requires finer discrimination. One child stole candy from a store, the other from his sister and the third received it from his mother. In this situation the student has to consider not only the right and wrong parameters but also the "grey" area in between. The student is asked to evaluate the morality of the behaviour of these three children and to imagine the consequences of each action and to relate them to the same moral rule. The fifth task involved lying vs. telling the truth. Two girls, one who told the truth and the other who lied received equal punishment from their teacher. The student was asked to draw a ribbon in the hair of the girl who, in his opinion, merited his sympathy.

The sixth task presented eight types of moral judgments under a drawing illustrating the story:

- (1) "Steve did not pick up his little brother on time" (Statement of fact). The child merely notes that Steve was late and makes no moral judgment.
- (2) "Steve was a playful boy" (Non-moral judgment). The child refers to the actor as "playful" and does not make a moral judgment. Perhaps he/she is unable to grasp the moral dilemma or lacks knowledge of the moral norm.
- (3) "No one will believe in his promises" (Consequence of behaviour). The child makes a value judgment by recognizing the relationship between the moral norm, the behaviour, the lack of strength to resist the motivation and the objective and consequences of the behaviour.

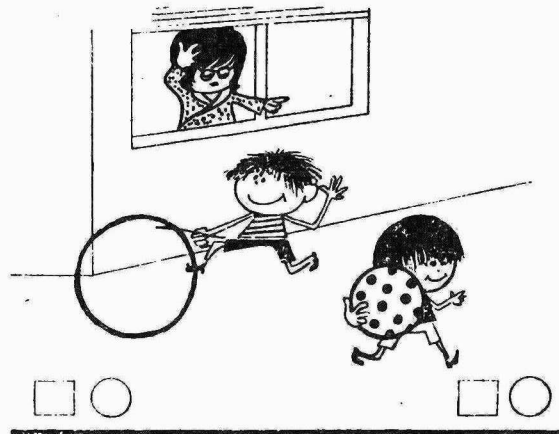
Directions: I will read you a story. Listen carefully while you look at the picture in front of you.

Story 1: Two children played happily outside, one with a ball, the other with a hoop. Suddenly a lady appeared in a window and said: "Please do me a favour and play somewhere else. I have a bad headache and would like to rest." The child who played with the ball replied: "I am sorry that I have disturbed you" and he went away. However, the child who played with the hoop said: "Why don't you close the window or go to a doctor if you have a headache."

Word: (1) polite (2) rude (3) wild (4) respectful (5) brave (6) messy

Directions: (A) Write in the square under the picture of the child playing with the hoop the number of the word which best describes him. Write it in the square.

(B) Write in the square under the picture of the child playing with the ball the number of the word that best describes him. Write it in the square.



(C) Colour the circle under the child's picture whose behaviour you think is correct (colour only one).

1. POLITE 2. RUDE 3. WILD 4. RESPECTFUL 5. BRAVE 6. MESSY

Task 1A

- (4) "Caused worry to his mother and damage to the factory" (Reference to the consequence of the behaviour affecting others). The child recognizes the relationship between moral norm, behaviour and its consequences to others.
- (5) "Duty first" (Reference to a moral norm). The child makes an association between the fact that Steve was late, and the moral rule.
- (6) "Tasks have to be done on time" (Moral principle). The child recognizes the relationship between moral norm, behaviour and motivation, consequences to himself and others and his judgment refers to the moral principle.
- (7) "Playing was more important" (Reference to motivation). The child recognizes the association between moral norm, behaviour and its motivation.
- (8) "Steve was irresponsible" (Moral judgment). The child associates moral norm and behaviour, motivation and consequence and the moral judgment refers back to the moral norm.

The seventh task is derived from Piaget's (1932) findings that younger children draw causal relationships between a morally inappropriate behaviour and an accident which follows it. This task consists of two stories, in each story an accident follows behaviour which is contrary to the moral norm. The students are asked to select one of six causes responsible for the accident. In the first story 50% of the reasons stated are realistic and 50% false. In the second story 66% are realistic and 34% are false.

(b) *Method*

The investigator and two teachers carried out the assessment a month prior to the end of the school year. Students were presented with one task sheet at a time. The investigator presented the story orally in all schools except in schools for the auditorily impaired, and asked the students with the exceptions of the visually impaired to look at the drawings which illustrated the main characters in the story performing actions which required the student's judgment. Below the drawings the answers had to be placed in a square and in a circle. On three of the task sheets words were printed below the drawings and each had a single digit in front of it. The words were first read orally by the investigator and then by the class. To make certain that the students knew the words the following steps were taken:

- (a) The investigators asked the teachers whether the students knew the words. (In Hungary children repeat grades unless they complete the prescribed curriculum for the grade and since Hungarian is a phonetic language, that is in general vowels and consonants have a single value, children usually read fluently by grade two.)
- (b) The investigators asked whether anyone was unsure about the decoding of the words. If anyone indicated this, the words were read once more.
- (c) After having read the word the students were asked to give examples of the meaning of each word.

Except for visually impaired students, once the student selected the appropriate or inappropriate behaviour he wrote the digit in front of the adjective in the square below the drawing showing the behaviour. One of the circles beside the square had to be shaded to indicate the choice of the appropriate behaviour.

In the schools for auditorily handicapped children the classroom teacher read the story into the microphone while children had their headphones turned on and lip-read what the teacher had to say. Teachers read the story twice, paraphrasing the story using vocabulary familiar to the children for the telling of the story. The adjectives were read by the teacher, then by the class, followed by the students' explanation of the meaning of each adjective.

In the schools for the visually impaired the task sheets were prepared in Braille without the illustrations. The illustrations were described in detail. The students printed with their braille the number of each adjective in the sequence that the questions about the story were presented.

In order to avoid problems with laterality (knowing left and/or right) when selecting the squares where digits had to be placed, the characteristics of the child's clothing in the story, nearest to the square were described, e.g. the square below "the child with the striped shirt". The investigator waited until each child in the class put down his/her pencil to indicate that he had finished the task before the next direction was given.

RESULTS

The results are presented in two parts: the results of this study and the comparison of the results of this study of students in special schools, with the results of the Bábosik and Biró (1980) study of children in regular schools.

(a) Moral judgments of students in special schools

Task 1A Recognition of inappropriate behaviour and choice of adjectives to describe it.

Almost 77% of the children labelled the behaviour correctly and an additional 12% used related terms, thus almost 90% of the children judged the behaviour as inappropriate.

Task 1B Recognition of appropriate behaviour and choice of adjectives to describe it.

Over 90.8% of the students judged the behaviour appropriate, but only 45.9% used the correct term, another 38.9% used the term "smart". This may be due to the fact that teachers and the parents use the term "smart" with high frequency in Hungarian society to describe appropriate child behaviour in a generalized manner.

Table 3

Choice of Adjectives — Task 1A

Adjectives	No. of Students	Percentage
2 rude	459	78.5%
6 messy	55	9.4%
3 wild	17	2.8%
Negative	531	90.8%
1 smart	24	4.1%
5 brave	8	1.4%
4 polite	21	3.7%
Positive	53	9.2%
Total	584	100.0%

Table 4

Choice of Adjectives — Task 1B

Adjectives	No. of Children	Percentage
4 polite	268	45.9%
1 smart	227	38.9%
5 brave	42	7.2%
Positive	537	92.0%
2 rude	26	4.5%
6 messy	13	1.7%
3 wild	8	1.4%
Negative	44	7.6%
Spoiled	3	.4%
Total	584	100.0%

Task 1C Recognition of the correct behaviour. 91% of the students chose the appropriate behaviour correctly.

Task 2A Recognition of appropriate behaviour and choice of adjective to describe it:

Table 5

Choice of Adjectives — Task 2A

Adjectives	No. of Children	Percentage
2 brave	196	33.6%
1 obedient	336	57.5%
6 punctual	9	1.5%
Positive	541	92.6%
4 scared	20	3.5%
3 rude	12	2.0%
5 disobedient	11	1.9%
Negative	43	7.4%
Total	584	100.0%

92.6% of the children judged the behaviour to be appropriate, however only 33.6% characterized it as "brave". The others judged it as an act of "obedience" (57.5%). "Brave" was the correct answer.

Task 2B Recognition of inappropriate behaviour and choice of adjectives to describe it.

Over 90% of the children judged the behaviour negatively, however while 52.5% selected the term scared, others concentrated on rude (21.7%) and disobedient (17.1%).

Task 2C Recognition of the correct behaviour: 95% of the students recognized the correct behaviour. No significant differences were found on the sex by age by school category distribution.

Task 3A Recognition of the appropriate behaviour and choice of adjectives to describe it.

Table 6

Choice of Adjectives — Task 2B

Adjectives	No. of Children	Percentage
4 scared	307	52.5%
5 disobedient	100	17.1%
3 rude	127	21.7%
Negative	534	91.3%
1 obedient	17	2.9%
2 brave	29	4.1%
6 punctual	3	.5%
Positive	49	7.5%
Spoiled	1	.2%
Total	584	100.0%

Table 7

Choice of Adjectives — Task 3A

Adjectives	No. of Children	Percentage
2 helpful	318	54.5%
3 obedient	88	15.0%
5 cheerful	126	21.5%
Positive	532	91.0%
4 selfish	21	3.6%
1 rude	24	4.1%
6 scared	5	.9%
Negative	50	8.6%
Spoiled	2	.4%
Total	584	100.0%

While 91.0% of the students judged the behaviour appropriate only 54.5% used the term "helpful" and others used the terms: "cheerful" (21.5%) and "obedient" (15.0%). There were significant difference for 11 and 11+ girls ($\chi^2 = 40.87$, $p < .01$) on the sex per age per school category distribution. Only 9.1% of the girls in schools for the behaviourally disordered used the term "helpful".

Task 3B Recognition of inappropriate behaviour and choice of adjectives to describe it:

Table 8

Choice of Adjectives — Task 3B

Adjectives	No. of Children	Percentage
4 selfish	277	47.4%
1 rude	159	27.2%
6 scared	39	6.6%
Negative	475	81.2%
2 helpful	34	5.8%
3 obedient	40	6.8%
5 cheerful	32	5.5%
Positive	106	18.1%
Spoiled	3	.7%
Total	584	100.0%

On this task 81% of the students correctly identified the inappropriate behaviour but only 47.4% applied the correct label "selfish" with another 27.2% called it "rude".

There was a significant difference on the sex by age by school category distribution for 11 and 11+ old girls ($\chi^2 = 30.67$, $p < .01$). Only 22.7% of the girls in auxiliary schools picked the term "selfish".

Task 3C Recognition of correct behaviour: 87% of the students chose the appropriate behaviour correctly. There were no significant differences for sex, by age, by school categories.

Task 4 Choices of accepting, accepting with hesitation and not accepting candy from each of the three boys in the story: from Bill who received it from his mother, from Marc who stole it from his sister and from Danny who stole it from the store:

Table 9

Responses — Task 4

Categories	Accepts		Accepts With Hesitation		Does Not Accept	
from Bill	369	63.2%	162	27.6%	50	8.6%
from Marc	114	19.6%	303	51.8%	164	28.0%
from Danny	98	16.6%	116	20.0%	367	62.8%
Spoiled	3	.6%	3	.6%	3	.6%
Total	584	100.0%	584	100.0%	584	100.0%

90.8% of the children would refuse to accept candy from the boys (Marc and Danny) who stole it, but 51.8% would accept it with hesitation from the boy who stole it from his sister, 20.0% from the boy who stole it from the store and 36% would accept it.

There were significant differences for 11 and 11+ year old girls ($\chi^2 = 15.86$, $p < 0.01$) when the sex, age, school category distribution was examined; only 4.5% of the girls in this age group in schools for behaviourally disordered would hesitate to accept candy from the boy who stole it from the store.

Task 5 Choice of appropriate behaviour: On this task 85.8% of the children judged "telling the truth" as appropriate behaviour. There were, however, significant differences for 11 and 11+ year old boys ($\chi^2 = 13.58$, $p < 0.01$), 11 and 11+ year old girls ($\chi^2 = 17.34$, $p < 0.01$) on the sex, age, school category distribution 48.2% of the boys and 54.5% of girls in auxiliary schools selected lying as an appropriate behaviour.

Task 6 Choice of statements:

Table 10

Choice of Statements — Task 6

Category	No. of Children	Percentage
1. Statement of fact	186	31.8%
2. Non-moral judgment	47	8.1%
3. Consequence to self	22	3.7%
4. Consequence to others	74	12.7%
5. Reference to moral rule	21	3.6%
6. Deduction	35	6.1%
7. Reference to motivation	50	8.6%
8. Moral judgment	138	24.8%
Spoiled	138	24.8%
Total	584	100.0%

There were no significant differences when sex, age and school categories were compared. Approximately a quarter of the students made a moral judgment, and one third simply a statement of fact.

Task 7A and 7B Choice of cause of accident: On both tasks approximately 1/3 of the children selected a false reason for the cause of the accident which followed inappropriate behaviour.

(b) *Comparison of results of moral judgments between students in regular and students in special schools*

When comparing the moral judgments of grade two children in regular schools and those in special schools the results show more similarities than differences.

Statistically no significant differences were shown on Task 1A ($\chi^2=1.13$, $p<.05$); 1B ($\chi^2=0.71$, $p<.05$); 1C ($\chi^2=1.00$, $p<.05$); 2A ($\chi^2=0.14$, $p<.05$); 2B ($\chi^2=0.69$, $p<.05$); 2C ($\chi^2=0.09$, $p<.05$); 3A ($\chi^2=1.07$, $p<.05$); 3C ($\chi^2=0.06$, $p<.05$); 5 ($\chi^2=0.15$, $p<.05$); 7A ($\chi^2=3.10$, $p<.05$) and 7B ($\chi^2=3.19$, $p<.05$).

Statistically significant differences were found on Task 4 (see Table 11).

Table 11

Responses — Task 4

Category	Accepts				Accepts With Hesitation				Does Not Accept			
	Regular School		Special School		Regular School		Special School		Regular School		Special School	
Bill	2,457	92%	369	63.2%	27	1%	162	27.6%	81	3%	50	14.7%
Marc	80	3%	114	19.6%	2,216	83%	303	51.8%	267	10%	164	28.0%
Danny	53	2%	98	16.6%	187	7%	74	20.0%	2,323	87%	367	66.0%
Spoiled	81	3%	3	0.6%	241	9%	3	0.6%	-	-	3	0.6%
Total	2,671	100%	584	100%	2,671	100%	584	100%	2,671	100%	584	100%

The percentages seem to indicate that more special school students 19.6% judged "stealing" or "borrowing" candies from a sister more acceptable than regular school students, (3%) but at the same time a higher percentage 28.0% of special students vs. 10% of regular students would refuse to accept it. Also a smaller percentage of special students refused candies from the boy who stole the candy. There were statistically significant differences between regular and special students with regard to accepting candy from Bill who received it from his mother ($\chi^2 = 47.91$, $p < .05$), from Marc who stole it from his sister ($\chi^2 = 435.05$, $p < .05$), and from Danny who stole it from the store ($\chi^2 = 37.08$, $p < .05$). There were also statistically significant differences when comparing "accepting with hesitation" from Bill who received it from his mother ($\chi^2 = 89.45$, $p < .05$) and from Danny who stole it from a store ($\chi^2 = 18.95$, $p < .05$). The "does not accept" column showed statistically significant differences in two of the choices: from Marc ($\chi^2 = 117.40$, $p < .05$) and from Danny ($\chi^2 = 60.16$, $p < .05$).

Table 12 illustrates the distribution of responses by regular school and special school students for Task 6.

There was no statistically significant difference on (1) Statement of fact ($\chi^2 = 2.47$, $p < .05$). Approximately one third of both regular and special school students selected this statement. There were no statistically significant difference on (4) Objective consequence ($\chi^2 = 0.06$, $p < .05$) nor on (6) Deduction ($\chi^2 = 3.47$, $p < .05$). However there were statistically significant differences on

(2) Non-moral judgment ($\chi^2 = 16.96$, $p < .05$), on (3) Subjective consequence ($\chi^2 = 46.75$, $p < .05$), on (5) Reference to moral rule ($\chi^2 = 5.02$, $p < .05$), on (7) Reference to motivation ($\chi^2 = 36.10$, $p < .05$) and (8) Moral judgment ($\chi^2 = 300.64$, $p < .05$). Interestingly, significantly more special school than regular school students made a moral judgment.

Table 12

Choice of Statements — Task 6

Statements	Special School		Regular School	
1. Statement of fact	961	35%	186	31.8%
2. Non-moral judgment	400	15%	47	8.1%
3. Consequence to self	400	15%	22	3.7%
4. Consequence to others	347	13%	74	12.7%
5. Reference to moral rule	160	6%	21	3.6%
6. Deduction	160	6%	35	6.1%
7. Reference to motivation	81	3%	50	8.6%
8. Moral judgment	81	3%	138	23.7%
Sub-Total	2590	97%	573	98.4%
Spoiled	81	3%	11	1.6%
Total	2671	100%	584	100.0%

DISCUSSION

Grade two children in special schools in Hungary when confronted with a moral dilemma made judgments which clearly indicated a knowledge of socio-moral norms with regards to being polite, brave, helpful, and telling the truth. Their answers, when simply divided into positive and negative terms, compared favourably with the answers of non-handicapped children. However, when it came to finer discrimination of terminology on the first three tasks there were differences. For example on Task 1B, where the "polite" label was required, one third (38.4%) of the handicapped children selected the word "smart". Observation indicates that this term is widely used as a

generalized social verbal reinforcer by teachers and parents for a great variety of appropriate behaviour. Since it is smart to be polite — a judgment was made about the concept.

On Task 2A, a larger percentage of children selected the term "obedient" (56.9%) instead of "brave" (33.2%). Perhaps this emphasizes the possibly greater degree of dependence on parents, who suggest that the child goes to the dentist not quite from his free will or from a decision of being "brave" but to obey the parent. The question on stealing involving three choices also resulted in answers which seem to indicate some difficulties in judgment when confronted with stealing from a sister vs. stealing from a store. Significantly more handicapped children than non-handicapped children judged stealing or perhaps "borrowing" from a sister more acceptable. Also significantly fewer handicapped children would refuse the candy from Danny, who stole it from the store, than non-handicapped children. Marc's behaviour, stealing candy from his sister resulted in some contradictions: significantly more special school students would accept the candy from him, significantly fewer would accept it with hesitation and significantly more would refuse it than regular school students. It would appear that there was a clearer polarization among handicapped students between those who would accept it and those who would refuse it than among regular students where the majority would accept the candy stolen from the sister with hesitation. However, a smaller percentage of special school students would refuse Danny's candy than regular school students.

It is surprising that a significantly larger percentage of special school than regular school students selected the statement reflecting moral judgment, "Steve was irresponsible", in Task 6. It would appear that at the grade two level handicapped children are more socialized to say the right, socially accepted things.

There were no significant differences between groups in naming false causes as reasons for an accident following inappropriate behaviour. On Tasks 5 and on 7 the pattern of the percentage breakdown of the answers follows closely that of non-handicapped children. Piagetian research would bear this out. Immanent justice seems to disappear quite early.

Further analysis seemed to indicate that difference in selecting labels resulted from the answers by children in auxiliary schools, (MH), schools for the behaviourally disordered and the auditorily impaired, where difficulties with understanding or knowing the moral norm as well as knowing the words was

likely to be responsible for the selection of inappropriate behaviours. Often these children were older, in the 11 and 11+ year old age brackets. This latter result seems to indicate that there might be greater differences between moral judgments of older handicapped children and their counterparts in regular schools.

The lack of finer discrimination among adjectives may simply indicate slower linguistic development of mentally and auditorily handicapped students. Overall results of the comparison between handicapped and non-handicapped children indicate, that (a) one or two years in segregated schools does not influence the child's social adjustment as assessed by making moral judgments; (b) that teachers in special as well as regular schools must do an effective job in teaching socio-moral norms; (c) that older children in grade 2 (11 and 11+ years of age) in auxiliary schools, and schools for behaviourally disordered and auditorily handicapped may have greater problems with making correct socio-moral judgments than their younger counterparts. The latter problem may involve the degree of severity of their handicap and/or the social frustrations of being a repeater among students of a younger age group.

One implication of Task 1B points to a need for more specific, more differentiated terms used for social praise when reinforcing appropriate behaviours of handicapped children in order to provide them with the linguistic ability to make finer discrimination of moral concepts. More weight could be placed on the teaching of these finer discriminations especially in auxiliary schools.

Finally, Bábosik and Biró (1980) did not differentiate between socially acceptable and moral behaviour, a distinction emphasized by Turiel (1980). One may question whether some of the tasks, for example, going to the dentist, belong to the social or the moral domain. There does not seem anything inherently immoral about avoiding the dentist however by not going to the dentist the child will be inflicting continuing pain on himself and may suffer damage to his teeth. Moreover, he will be causing continued distress to his mother. So there are human and welfare consequences of not going to the dentists. Turiel (1980), when he draws attention to this socio-moral distinction, claims that even young children are able to differentiate between the two.

The two samples produced near identical results if the test was one of whether or not the children had learned the correct socio-moral behaviours involved. Previous research (Hunyady, 1977) showed lagging moral reasoning in the development of children who were in least favourable position in regular

schools. One may question the reliability of the instruments of measuring moral thinking. On the other hand one may speculate that grade two handicapped children do not fully perceive the social implications of segregated schooling and that the environment created is conducive to learning. The over-age children, who occupy a least favourable position in the group, however, conform to Hunyady's findings. Low social and academic position in both the regular and special school settings seems to bear a relationship to a slower socio-moral development that is not related to the intellectual potential of the student at grade two level. Also one may question the placement in auxiliary schools. Are the children in auxiliary schools intellectually retarded or simply having adjustment difficulties at school entrance due to various factors such as different cultural and linguistic background as in the case of the Romani children, slower maturation, socially disadvantaged environments, etc.

Perhaps if one assessed the reasoning behind the judgments, a difference between students in regular and special school might emerge as suggested by Sam (1984) who comparing the moral reasoning of deaf students in special and regular schools.

If there are no differences in socio-moral judgment at a grade two level, will these appear at a later stage of schooling? The next phase of this study with grade 6-8 children will attempt to answer this question.

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**PERCEPTION OF THE CAPABILITIES AND
PERSONALITY OF A BLIND INTERVIEWER BY
HONG KONG CHINESE TEACHERS**

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This study involves Hong Kong Chinese teachers' perception of a blind interviewer's capabilities and personality. The subjects were divided into two groups receiving identical questionnaires. One group was told the interviewer was blind and the other was not given this information. Overall there was a highly significant difference in favour of the 'blind' interviewer. Whilst no overall significant difference was found between the perception of males and females, differences did emerge in certain aspects of competence and personality, with females showing a more positive attitude towards the 'blind' interviewer. The overall findings contradict the extensive literature indicating stereotyped negative attitudes towards the blind.

BACKGROUND TO INVESTIGATION

The status of handicapped people in Hong Kong has for many years been low. Although more attention is being given to care now than in the past, people with disabilities are still not fully accepted by the general public, therefore social and educational integration are not areas of popular concern in Hong Kong. Physically handicapped children, without any accompanying mental

handicap, are often integrated in regular schools but all other special needs children are usually educated in segregated special schools.

The attitudes of Hong Kong people towards the disabled is reflected in a report concerned with the Further Development of Rehabilitation Services in Hong Kong. In this report, it is emphasized that unless disabled persons "are restored to maximum working capacity and economic independence, the economic and social waste generated by this large number of people becomes an intolerable burden on the community and economy as a whole" (Hong Kong Government Report, 1976). Thus, even at best, it is economic affairs which attract attention.

In spite of some encouragement by the Government, employers are generally unwilling to hire people with any form of handicap. This of course is not peculiar to Hong Kong; there is a good deal of evidence that British employers are equally unwilling to go beyond economic consideration (e.g., Fletcher, 1970; Clayton, 1973; Baker, 1974a). A survey carried out by The Co-ordinating Committee on the Blind (CCB) of the Joint Council for the Physically and Mentally Disabled (Rehabilitation Division, Hong Kong Council of Social Service) in 1984 found that low education level, lack of skills and unemployment marked the general social-economic conditions of the visually disabled population of ages 18-60 in Hong Kong. The majority, 74.13% of 18-60 olds, had either no schooling, or only kindergarten or primary school education. It should be noted that in January 1983, the Blind Registry of Hong Kong contained a total of 8,136 persons, of which 2,315 fell within the target age group of 18-60 (CCB, 1984).

More than seven out of ten visually disabled adults did not consider themselves as having any kind of working skills. Two-thirds of them were unemployed, and for the one-third who had jobs, these were largely confined to manufacturing, low-level clerical, or service labour.

In an awareness of an apparent poor status of disabled people in Hong Kong, the aim of this present research is to examine the perceived capabilities and personality of a blind Cantonese speaking interviewer by a group of experienced Hong Kong school teachers.

A number of investigations have supported the assumption that physically disabled persons are often viewed less favourably than their able-bodied counterparts. Stereotyped attitudes have been investigated by a number of authorities (e.g., Barker, et. al., 1953; Yunker, et. al., 1960). Research results have also suggested that negative attitudes are encountered by the disabled as they

grow older (Ayer, 1970; Panda & Bartel, 1972; Rapier, et. al., 1972; Larsen, 1975; Karg & Masoodi, 1977).

Among all forms of physical handicap, blindness is considered to be one of the most severe and destructive (e.g., Whitman & Lukoff, 1964). A blind person is regarded as helpless and dependent (e.g., Baker, 1974a). Monbeck (1973) suggests that blindness is usually thought to affect all afflicted individuals uniformly and that the physical disadvantage is often perceived as indicating psychological, emotional, and even moral inferiority. He considers that "a person's blindness is still perceived to the exclusion of his other qualities and traits" (1973, p.112). As a result, the blind are often treated as a subordinate and underprivileged minority group (Mussen & Barker, 1944; Whitman & Lukoff, 1964), with limited opportunities for employment (Baker, 1974b). Among the various disabilities, blind and deaf people are thought to be the least employable by businessmen and other employers (Fletcher, 1970). Even though some employers have expressed positive attitudes towards the capabilities of blind people (Black, 1970), they are still reluctant to employ them (e.g., Clayton, 1973).

Contrary to the extensive literature indicating mainly negative attitudes towards the physically disabled, a study by Mitchell and Allen (1975) suggests that such individuals may be viewed more positively when they are given the opportunity to demonstrate professional capabilities. In one experimental condition, a videotaped counselling session with the counsellor in a wheelchair was shown to the subjects, while in the control condition, the counsellor sat in an ordinary chair. The apparently disabled person was rated significantly higher on all therapeutic variables, as measured by the Barrett-Leonard Relationship Inventory. Similar findings have been reported by Bradham and Thorenson (1973).

Mitchell and Allen's paradigm is considered as presenting some methodological advantages (Kushnir & Stratford, 1979). Firstly, it involved an individual observed in what appeared to be a credible situation of normal employment and not a hypothetical person as in many attitudinal studies. Secondly, since his behaviour in the two conditions was as similar as possible, differences in attitudes would probably be attributable to the effect of a single independent variable; the wheelchair. Thirdly, the study used a control design, which provided a baseline for comparison of expressed attitudes.

A study by Kushnir and Stratford (1979) involving over 200 first year college students followed the Mitchell and Allen (1975) paradigm; the disabled and

non-disabled subject was in fact one and the same person. The material used was a news item, a recorded British Broadcasting Corporation (BBC) radio interview, but only half the students were informed that the interviewer was a disabled person. The study resulted in the disabled subject being perceived more positively than the non-disabled person in both ability and personality. Surprisingly, there was no significant difference between the attitudes of males and females, in contrast to Baker's (1974b) survey which included several findings of female subjects indicating more positive attitudes than males.

Since both a positive and negative comparison between attitudes towards disabled and non-disabled persons seem to be supported by the literature, no specific hypothesis could be formulated for the present study. However, a tentative hypothesis was that the Chinese female subjects might demonstrate more positive attitudes than the males. This follows Baker's (1974b) survey of several such findings, though prevailing attitudes in Hong Kong would suggest that both male and female subjects would be more negative towards the disabled person than they would to the able-bodied.

THE INVESTIGATION

Sample

The investigation involved 46 Hong Kong teachers who were studying at a British university. There were 26 females and 20 males with an average age of 27.74 years (F: 27.81; M: 27.65), with a range for females of 24 to 39, males from 24 to 32 years. The subjects were divided into two groups. The number of subjects in the experimental ('blind') group and the control ('able-bodied') group was equal (23), with an equal distribution of male and female subjects in each group (10 males, 13 females).

Experienced Chinese teachers were selected as the subjects of this experiment rather than the equally available, but younger, Hong Kong Chinese undergraduates on the grounds of their maturity. It was also important to know how far the prevailing attitudes to disability in Hong Kong affect teachers, who are a professional group with more than average influence on the formation of attitudes.

The major limitation relates to the smallness of the sample since this research was carried out in England and not Hong Kong. However, 46 out of 49 available

Hong Kong teachers contributed to the results and the maturity, the occupation and the age range of the sample does offer scope for constructive elaboration of the main issue.

Procedure

The materials comprised of a recorded four-minute interview in Cantonese and a questionnaire (see Appendix). The subjects were divided into two groups and the experiment was conducted separately. The two groups received identical questionnaires but the instructions differed slightly. Time was allowed for enquiries and explanation of the questionnaire. Further information such as the source of the interview, a brief description of the background of the interviewer and interviewee was given, but the subjects in the experimental group were told in addition that the interviewer was blind. All the subjects were instructed to concentrate on the interviewer's competence and personality rather than on the content of the interview. The four-minute item was played twice and then the subjects were asked to respond to the previously distributed questionnaire.

Measures

The present study employed the same paradigm as Mitchell and Allen's (1975), with a design similar to that devised by Kushnir and Stratford (1979). The object here was to investigate the perception of the capabilities and personality of a blind interviewer by Hong Kong Chinese teachers. To avoid complications of language, a Cantonese interview was prepared rather than one in the English language. Half of the subjects were told the interviewer was blind, while the rest were not given this information. Since the status of the disabled in Hong Kong is, as previously indicated, still relatively low, it would seem to be virtually impossible for a blind person to become an interviewer.

In order to make the experiment credible to the subjects, they were told the interview was from a Chinese Association in England and the interviewer was an indigenous Chinese working for that Association. A neutral topic was chosen rather than an emotional one, so as to avoid any distraction towards the content; attention was to be directed towards the capabilities and personality of the interviewer. The fact that the present study used one recorded tape for both conditions is an improvement on Mitchell and Allen's design, where the counsellor participated in two role plays which were filmed sequentially and therefore could not be identical.

In getting the recorded interview, some problems arose. It was rather difficult to obtain a Cantonese interview in England and consequently one of the investigators had to prepare one herself. In recording the interview, both the interviewer and interviewee were not given the true aim of this recording, instead, they were given the information that the recording was to test their language ability, so that a more natural interview could be obtained.

The questionnaire contained eleven five-point scales, divided into two sections. The first six items referred to the interviewer's ability (efficiency; intelligence; systematization; vocabulary; preparation; clarity of speech). The last five items related to his personality (pleasantness of manner; helpfulness; sociability; pleasantness of voice; confidence).

As it is not easy to judge the competence and personality of an interviewer by simply listening to the interview for a few minutes, the two main areas of interest were broken down into eleven items for better measurement. Also, as some items were rather abstract and broad in sense, concrete examples and elaborations of some items was given as guidance for judgement. The whole questionnaire was designed as simply as possible one side of A4 paper so as to ensure ease in completion and reading. Since the judgements that had to be made were subjective, all subjects were requested not to discuss their answers when filling in the questionnaire. In conducting the experiment with the experimental group, the information that the interviewer was blind was given in the final part of the instruction so as to minimize the chance for questions being diverted to this information from the subjects and to keep this important aspect fresh in mind whilst the experimental group listened to the interview and filled in the questionnaire.

Results and Discussion

Two way analysis of variance using a method devised by Youngman (1975) on the overall scores, with conditions and sex as the independent variables, revealed that only one main effect was significant. The 'blind' interviewer was perceived more positively than the sighted individual ($F = 16.32$, $df = 1/45$, $p = 0.0004$). This is consistent with the findings of Mitchell and Allen (1975) and Kushnir and Stratford (1979). Surprisingly, there was no overall significant difference between females and males in the experimental ('blind') group (means: $f = 32.23$, $m = 28.90$) but this supports the findings of Kushnir and Stratford (1979) who made a similar discovery using the same technique. Differences

however were detected among the Hong Kong teachers which were not present in the English students.

In terms of perception of competence, the mean of the Hong Kong females were higher than that of the males whilst not reaching a level of significant difference. This difference could of course be attributed to chance (means: $f = 17.31$, $m = 16.20$). In the perception of personality of the interviewer, the Hong Kong females again followed the same numerical trend (means: $f = 14.92$, $m = 12.70$).

The overall effect was positive and in favour of the blind in both competence and personality (Competence: $F = 12.83$, $p < 0.001$; Personality: $F = 14.06$, $p = 0.0008$). In the perception of personality, there was an interaction effect between the females and the males ($F = 4.1$, $p < 0.05$), the females being significantly more influenced by the supposed blindness (means: f , 14.92 ; m , 12.70 ; 11.30).

A subsequent inspection of the scores on the individual scales using the Tukey method (Veldman, 1967) showed that the control and experimental groups differed significantly on eight of the eleven scales, these were: intelligence (2.75 and 2.25, $Q = 2.97$, $p < 0.05$); vocabulary (3.19 and 2.47, $Q = 4.50$, $p < 0.001$); preparation (3.18 and 2.29, $Q = 5.87$, $p < 0.001$); clarity of speech (2.63 and 2.03, $Q = 3.24$, $p < 0.05$); pleasantness of manner (2.93 and 2.38, $Q = 3.69$, $p < 0.05$); helpfulness (2.75 and 1.97, $Q = 4.64$, $p < 0.001$); pleasantness of voice (2.94 and 2.24, $Q = 4.28$, $p < 0.001$) and confidence (2.72 and 2.1, $Q = 2.86$, $p < 0.05$), with an interaction effect in sociability ($F = 5.63$, $p < 0.05$). Whilst there was no overall difference, the females were significantly more positive in their perception of the 'blind' interviewer than they were of the able-bodied (means for the females in the experimental group and control group were respectively 2.85 and 1.85, $Q = 3.95$, $p < 0.05$; for the males they were 2.1 and 2.3, $Q = 0.79$, n.s.). It is interesting to note that the English group differed in only four of these scales, those on speech, manner, voice and confidence (Kushnir and Stratford, 1979). It appears that the Hong Kong Chinese teachers had a much more favourable impression of the interviewer if they thought he was blind; even more so than the British sample.

The British study had used a professional BBC interview and Kushnir and Stratford (1979) commented that "... a less competent interviewer might have evoked a less sympathetic ... response." The results from the present experiment showed this not to be the case; in fact the less competent, amateur, interviewer evoked an even more sympathetic response. Whilst there were no

significant differences between males and females, it was the highly significant difference in the females' perception of the 'blind' interviewer which was responsible for the very positive attitude expressed between the control group and experimental group. The females differed on five scales (see Table 1), whilst the males were only significantly different on two. The means of the males however, were all in the direction of favour for the blind interviewer, with the single exception of sociability, and the difference here is so slight as to make no difference (means: experimental group = 2.1; control group = 2.3). Surprisingly, the males were significantly different in their assessment of vocabulary, one of the scales where the females showed no significant difference.

In individual interviews carried out subsequent to the experimental procedures, eight out of thirteen females admitted that they had lowered their standards when they imagined the interviewer to be blind, though three said they had tried not to allow this knowledge to affect them. Whilst their sympathy for the blind person's ability to carry out such a task might have been misplaced, it did show that they had a positive attitude to the blind. One said, "He is blind and has become an interviewer. He has already overcome his disability to this extent. What more do you expect from him? Another said she would "... would give him more excuse for mistakes because he would not be able to see the facial expression of his interviewee." One teacher expressed her attitude this way: "If I had a child in a class with some special need, I would try to show more patience and understanding in my teaching. The same applies to my assessment of the blind interviewer." All ten males said that when they filled in the questionnaire they tried to be completely neutral. Seven of them said that even though they had considered the blindness, it had certainly not affected their judgement. The means of the results from male teachers show that knowing that a person is blind in fact does have some effect on their judgement.

There remains however a gap between attitudes and practice. Very few blind people hold position of responsibility in Hong Kong. A recent T.V. programme in Hong Kong presented a number of successful people in the colony and amongst them was a university lecturer from a science department who was blind. The objective was to show that it was ability which enabled people to succeed, even if this meant having to overcome a disability. In spite of this, old prejudices die hard and the success of one or two highly intelligent disabled people cannot be described as typical or indicative of change. For example, only 0.81% of blind people in Hong Kong are members of professions and only

1.63% are in higher education (CCB, 1984). However, there are distinct indications that an improvement is beginning to take place. This is coming about through Government initiatives, better educational prospects and, as suggested by the results of this study, a growing positive attitude to disabled people.

The real need, as pointed out in an investigation carried out in Hong Kong (CCB, 1984), is for a systematic programme of adult education for the blind. This survey revealed that it was the younger age group who felt that such a programme would be beneficial. Hong Kong is a highly competitive society; even for able-bodied people, who must be well-equipped in skills and education if they want to succeed. Employers tend to be practical and are generally male. It may be that, as shown in this study, males, whilst being generally sympathetic, are less enthusiastic in their consideration of the handicapped than are females. Consequently the handicapped would have to demonstrate quite high degrees of skill in order to compete. The blind and other disabled people, need to be in a position to show that they have at least as much to offer as their able-bodied contemporaries.

At the same time there are traditional concepts concerning handicapped people in Hong Kong, which are deep-seated. The handicapped tend to be regarded as a group of people who, whilst being consumers, have little to contribute. In other words they are viewed as a burden on Hong Kong society. As previously stated, disabled people in Hong Kong are generally without working skills, and they do not have the educational levels normally required to enter the professions. They are frequently occupied in low level work in sheltered workshops under the supervision of caring staff.

If handicapped people in Hong Kong are to be integrated successfully into society, they need better training facilities. A fundamental need, and not only for Hong Kong, is for more understanding and appreciation of the place of handicapped people in society. This can only come about through effective integration in the early years. Attitudes are not easy to change once they are fixed. It is much better to find ways of educating the younger generation to accept the disabled before disability stereotypes have been formed.

Only one of the teachers associated with this experiment had experience of teaching blind children. It was out of this experience that she reported that, "When one knows blind people very well one regards them as other people rather than blind people." In this way a special standard for the blind is not considered. In fact she said that she had to remind herself that the person was

blind, and this knowledge to her seemed irrelevant. To know disabled people better, results in a better attitude towards them. It is to be hoped that the positive attitudes towards handicapped people which seems to be held by Hong Kong Chinese teachers can be passed on to the younger generation.

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SPECIAL EDUCATION STRIVINGS IN INDIA: RECENT IMPRESSIONS

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Educational provisions for exceptional children have become a priority in India as a result of the 1986 National Policy on Education issued by the Ministry of Human Resource Development. Facilitated by a 1987 study-visitorship, the writer visited a wide range of educational facilities and discussed the sweeping recommendations for special education contained in the policy document. Impressions of special education strivings based upon interaction with government educational personnel, teachers, principals, educational psychologists and university faculty are presented.

Dr. Surindar Suri, a visiting professor of political science and Asian studies at the University of Rajasthan, noted during a recent conversation in Jaipur that "visitors who come to India for a month write a book . . . those who stay six months don't lift a pen." It is imperative to state that this paper is not presented as the definitive statement on Indian education. Rather, it is an attempt to accurately convey impressions of special educational trends in India based upon a one month study-visitorship. The writer met with principals, teachers, government educational personnel, educational psychologists and university faculty with defined responsibilities in the area of special education. Cognizant that impressions based upon a limited sample do not always reflect the entire system, care will be taken to avoid unwarranted generalizations.

There is a strong consensus in India that the last ten years has witnessed a marked improvement in life-style and the capacity for self-reliance. Indian educators and visitors returning to India after years abroad comment positively concerning the new agricultural self-sufficiency and the consequent social betterment. As pointed out by a graduate student at Jawaharal Nehru University representing the Society for the Promotion of Youth and Masses, the new Indian generation is very involved in current social issues ranging from educational inequality to "bride-burning" practices related to the traditional dowry system. Nonetheless, it is safe to say that the heightened social consciousness is much less dramatic among rural tribal groups and the destitute. Professor K. Bose, Faculty of Education, Delhi University, noted that the literacy rate at the time of independence was 7% as compared to 41% in the most recent government survey in 1981. She qualified that despite the sizeable improvement "many have not yet awakened to the light which might be part of their life."

THE SPECIAL EDUCATION MANDATE

In a society of 750 million the provision of general public education is an overwhelming task. Although social attendance at both the primary and secondary level is increasing, universal attendance has not been attained. Similarly, sporadic efforts on behalf of exceptional children, have not come close to meeting the need. However, rather than focusing upon deficits, it might be worthwhile to consider recent legislative strivings directed toward special education and the islands of insightful endeavour on behalf of exceptional children found throughout the country. Despite deficits, the Ministry of Human Resource Development and educators in the field are aware of the directions which special education must take. Jawaharal Nehru University faculty commented very positively concerning recent attempts to educate spastic children in more normalized settings and the need for a reduced teacher-student ratio to facilitate integration.

Although approximately 80% of Indian children attend primary/elementary school, the numbers dwindle after grade six. Competition is rigorous for university entrance. As noted by Shiv Paul Singh, Assistant Educational Advisor with the Ministry of Human Resource Development, Indian young people do not have "the many alternatives available in your country."

Given the status of general educational provisions, "special needs" education becomes a matter of concern. If we were to extrapolate from the Education of All Handicapped Children's Act (U.S. Public Law 94-142), 12% of all Indian children would be classified as "exceptional" representing the entire range of established categorical distinctions. Given the huge (and increasing) population, the magnitude of the required delivery system for special education can be described as astronomical. But there are striving — recent, goal-directed and focused. As noted by Dr. Sushma Bhagai, a fellow of the National Institute of Educational Planning and Administration (NIEPA) in New Delhi, there are "teacher shortages and meager facilities but we are at a stage of awareness."

NATIONAL POLICY ON EDUCATION 1986

Probably the most positive recent response to special education needs has been the National Policy on Education (1986) issued by the Department of Education, Ministry of Human Resource Development. The document confirms the universality of educational rights for handicapped individuals, extending special education philosophy beyond the "sporadic effort" stage of evolution.

Not dissimilar in philosophic thrust from the British Warnock Report (1978) and the American PL 94-142 (1975), the National Policy on Education presents the following statement in subsection 4.9 entitled "The Handicapped":

- 4.9 The objective should be to integrate the physically and mentally handicapped with the general community as equal partners, to prepare them for normal growth and to enable them to face life with courage and confidence. The following measures will be taken in this regard:
- (i) Wherever it is feasible, the education of children with motor handicaps and other mild handicaps will be common with that of others.
 - (ii) Special schools with hostels will be provided, as far as possible at district headquarters, for the severely handicapped children.
 - (iii) Adequate arrangements will be made to give vocational training to the disabled.

- (iv) Teachers' training programmes will be reoriented, in particular for teachers of primary classes, to deal with the special difficulties of the handicapped children; and
- (v) Voluntary effort for the education of the disabled, will be encouraged in every possible manner.

PROGRAMME OF ACTION 1986

Aligning with and reinforcing the National Policy on Education, an ensuing government document entitled Programme of Action (1986) presents directional guidelines for policy implementation. Section XV of the Programme of Action, "Education of the Handicapped", has been abridged to present salient features.

Existing Special Education Provisions

The Programme of Action described the existing (1986) special education provisions in somewhat pejorative terms:

- Approximately 1.4 million disabled children are in the 0-4 year age group requiring identification, assessment, early stimulation and preparation for education.
- The National Commission on Teachers recently reported that "not more than 5% of the blind and deaf children and, perhaps, .05% of the mentally retarded" are estimated to be "in about 800-1000 special schools" which, for the most part, are located in metropolitan centres. Rural areas, where about 80% of these children are located, remain practically unserved. Educational coverage is negligibly small.
- Apart from quantitative gaps in educational coverage, qualitative aspects also need improvement. Most institutions are operated by voluntary organizations and while some are very good, many do not have trained staff, adequate accommodation and the necessary equipment and material.

Major Implications of the National Policy

According to the Programme of Action, the major implications of the National Policy on Education can be succinctly summarized:

- Wherever possible the education of children with locomotor handicap and other mild handicaps will be common with that of others. Aligning with this, appropriate arrangements for pre-school preparation and vocational preparation in common with others are envisaged. In contrast, children with severe handicaps are to be enrolled in special schools.
- A system for identification, diagnosis and assessment must be established for school placement. The system will define the degree of handicap in terms of the categoric definitions of exceptionally formulated by the Ministry of Health.

Process Formulation: Toward Integration

Aligning with and extending the National Policy implications the Program of Action presents a further analysis of special education needs and suggests pragmatic directional guidelines for implementation.

- As a consequence of improved health services and nutritional standards, it is anticipated that the absolute number of disabled children will not increase significantly in the near future. To cater to the existing needs of about two million severely handicapped children, 10,000 special schools will be needed. Only children whose needs cannot be met in common schools will be enrolled in these schools. As disabled children acquire communication and study skills, they will be integrated into common schools. With the improved efficiency of the common school systems the capacity to serve the needs of integrated disabled children will improve as well.
- Ideally the integrated education of handicapped children would be universalized at the primary level of 1990 and by 1995 would include the 6-14 year old group. However, a "warfooting" effort will be required because present efforts are very limited and the process requires large economic resources. The preparation of special educators and other specialists will require time. However, with concerted efforts, it is the

expectation that learning handicapped children and children with mild handicaps can be accommodated within this time frame.

- The geosscatter of the handicapped and fluctuations in the incidence of disability make the task of planning educational facilities very complex. Nevertheless, the enrolment and retention of mildly handicapped children in common schools will be increased through:
 - (a) Advocacy programs for administrators and teachers in the common school system;
 - (b) Massive in-service training for teachers;
 - (c) Orientation programs for administrators;
 - (d) Development of expertise by the State Councils of Educational Research and Training (SCERTs) and other sub-divisional levels to provide advisory services to teachers;
 - (e) Development of alternative and modified learning materials to assist with integration;
 - (f) Equipment modifications and safety system adaptations for prevocational and vocational courses in the common schools;
 - (g) Development of district level psychological assessment services;
 - (h) Mobilization of Health and Welfare Ministry support.

According to the Programme of Action the past response of State Governments to the centrally sponsored mainstreaming scheme, Integrated Education for the Disabled (IED), has not been encouraging. The document recommends that the Ministry of Human Resource Development work in conjunction with the States to accelerate implementation of the scheme.

Role of the National Council of Educational Research and Training

The Programme of Action assigns the National Council of Educational Research and Training (NCERT) a central role in the massive teacher (re)training program which will be undertaken. The Ministry of Human Resource Development through agencies like NCERT, NIEPA and the Regional Colleges of Education will undertake the training task in conjunction with the SCERTs. In addition, the NCERT will develop handbooks for teachers and other educational personnel having responsibility for exceptional children within integrated educational settings.

At present, diagnostic tools for the psycho-educational assessment of learning problems are conspicuously missing. To be effective, assessment instruments must be developed in regional languages. The Programme of Action suggests that the NCERT undertake this work as a priority. As well, NCERT has been assigned the task of providing "flexibility in examinations" for the severely disabled by designing appropriate evaluation instruments.

In addition, the development of a Psycho-Educational Resource Centre at NCERT is envisaged. Innovative experiments relating to educational provision for integrated children are to be undertaken by the NCERT with worthwhile resultant methodologies disseminated to the field.

Education of the Severely Handicapped

Although integration is recommended for children with mildly handicapping conditions, the Programme of Action recommends that special schools be established at district and sub-district levels for the severely handicapped. "Composite" special schools might be established as a beginning. This decision to establish composite schools was based on the geosscatter of disabled children, the reluctance of parents to send children to distant schools, the potential for sharing specialist staff, and economic viability criteria. In the composite special schools children defined by the same category of handicap will be educated in specific departments. In each district where a special school is established, a vocational training centre, either as a part of the school or as an adjunct to it, will be developed. The emphasis will be on training of craftsmen for the local market.

Establishment of special schools is envisaged as a federal scheme which will be implemented through state level agencies as well as the voluntary sector. The schools will be established first in districts which do not have such a provision with each school providing for at least 60 handicapped children of all categories as the initial enrolment.

Personnel Requirements Related to Special Schools

About 3500-4000 special teachers will be required immediately if the proposed special schools are to become functional within the suggested time frame. This task is to be undertaken by the Ministry of Human Resource Development and Ministry of Welfare through, NCERT, the Regional College of

Education, National Institutes of Handicap and selected University Departments of Special Education. Retooling of untrained teachers in existing special schools will be completed through in-service training courses organized by the National Institutes, NCERT and NIEPA, in collaboration with the SCERTs.

Besides teachers, numerous psychologists and doctors must be oriented to the task of assessment and rehabilitation of handicapped children. The Programme of Action suggests that the "existing cadre of counsellors" be provided a 4-6 week in-service training program related to the assessment of handicapped children. Similarly, a two-week orientation program is recommended for medical staff. In addition, other personnel like physiotherapists, occupational therapists and speech therapists, will be required. The Health Ministry and Welfare Ministry will develop and coordinate the required training programs in consultation with the Rehabilitation Council of India. Orientation training for vocational teachers is also envisaged.

The proposed use of technology in special education will involve modification of equipment and materials. For example, computer adaptations and scripted video format for the deaf will be required to provide exceptional individuals with the learning opportunities available to other children. As stated by the National Commission on Teachers, "grants to special schools should be given on the same basis as to regular schools with adequate provision to meet special needs of the disabled children."

Research and Evaluation

According to the Programme of Action the "weakest link" in the special school system is the lack of supervision due to the absence of an appropriate infrastructure. The Programme of Action suggests that the Ministry of Welfare and Ministry of Human Resource Development jointly address the problem. One possibility is that district level staff who are to be oriented to special education be provided with competencies for supervision.

The document further recommends that research concerning special education in the Indian socio-cultural milieu be undertaken immediately. One of the reasons for the paucity of research in this area has been the lack of university involvement and a dearth of qualified individuals to conduct related research. Training of researchers, funding, and NCERT incentive are viewed as functional requisites for this research.

The data-base regarding special education is very weak. Steps will be taken to strengthen the information system. The Ministry of Welfare and the Ministry of Human Resource Development will monitor the progress of handicapped education in special schools and in common schools respectively. An integrated information system will serve both ministries. In future editions, the periodic "Educational Survey" conducted by the NCERT will include data on special education. Both ministries will conduct evaluative studies of the special education through the National Institutes, NCERT, NIEPA and University Departments of Education and Special Education.

FIELD OBSERVATIONS

There is a general consensus among educators in the field that the 1986 legislation has prompted a substantive increase in services. Efforts in traditional priority areas such as auditory and visual impairment, have increased with 50-60 Curriculum Resource Materials Development Centres providing adaptive materials in various formats throughout the country. National Service Teams provide "readers" and "writers" to assist blind students at the high school level.

Dr. S. Mukhopadhyay, NCERT Special Education and Extension Services in New Delhi, is involved in the adaptation of social studies materials for visually impaired children involved in integrated programs. Material adaptations are made after a total curriculum analysis, and in most cases, only moderate changes are required. With NCERT support, teacher skepticism concerning integration is on the decline. Dr. Mukhopadhyay has developed two "campaign" films for parents and teacher concerning integration of the blind.

In New Delhi the NCERT conducts three-month training courses for key state-level educators concerning aspects of integrations. On completion of training these persons return to their home states and do field in-service with fellow educators through the SCERTs.

The impact of voluntary organizations upon special education must not be discounted. The Federation for the Welfare of the Mentally Retarded, the Spastic Society for India, the YM-YWCA, the Bharatiya Vidya Society are a few of the innumerable organizations which have pioneered and supported special education efforts through the years. Voluntary and charitable organizations has provided

not only financial support to small programs but schools for various disability groups.

There are those who would say that education in India is a reflection of society as a whole, with the disadvantaged being restricted from private school entrance, unable to afford tuition and basic necessities. Dr. R. Mujoo, Professor of Education, University of Jammu, noted with concern that there are "60 million in India who cannot afford to go to school." Others commented concerning low status and low educational expectations for women. It would appear that much is in need of improvement.

Nonetheless recent strivings on behalf of exceptional children are encouraging. Mr. S.C. Mishra, Principal of the SALP School for the Deaf in Jaipur, spoke positively concerning the five institutes for the mentally retarded proposed for Rajasthan under the 1986 National Policy statement. With NCERT support, Mr. Mishra expects further involvement in the IED program for the deaf as well as the orthopaedically handicapped.

It would appear that special education has taken on a higher profile in teacher training. For example, the University of Delhi offers an undergraduate course in exceptionality and has a course on the physically handicapped in the offing. At the graduate level courses on the gifted and education of the mentally retarded are in place. There is a teacher program for deaf education at Lucknow in Hindi and a parallel program in English at Bombay. Various universities are at the planning stage with regard to courses directed toward special needs children.

As noted by Mrs. Rageshwari, Principal of the Government College of Education at Srinagar, the National Policy on Education is having an impact. "Prior to this these kids were left to the mercy of God with no special notice of them." The pieces of the puzzle have been carefully examined and the monumental task of construction has begun.

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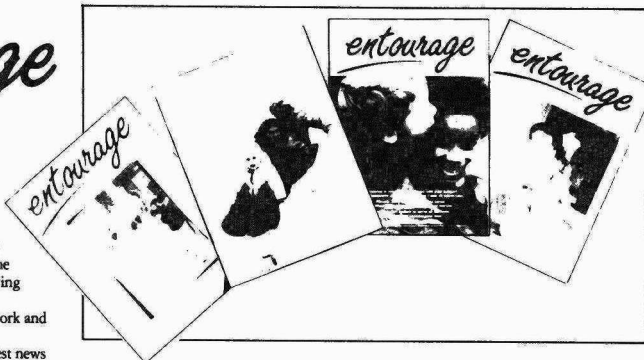
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