DOCUMENT RESUME

ED 130 160 CE 009 032

AUTHOR Hamilton, Phyllis D.
TITLE Vocational Education Research and Development for Ethnic Minority Students.
INSTITUTION National Academy of Sciences - National Research Council, Washington, D.C. Assembly of Behavioral and Social Sciences.
REPORT NO VT-103-364
PUB DATE 1 Aug 75
NOTE 70p.; For related papers see CE 009 020-026, CE 009 028-035, and ED 112 155

EDRS PRICE MF-$0.83 HC-$3.50 Plus Postage.
DESCRIPTORS Disadvantaged Youth; Dropouts; *Educational Research; Elementary School Students; Elementary Secondary Education; *Ethnic Groups; Junior High School Students; *Minority Groups; Needs Assessment; Post Secondary Education; *Research Needs; Secondary School Students; State of the Art Reviews; *Vocational Education

ABSTRACT

Vocational education research in minority group needs is examined in relation to its congruence with past directions and future trends in the larger social science research establishment. An overview of research conducted since the Vocational Education Amendments of 1963 is presented, with a subsequent description organized according to the needs of ethnic students at different educational levels. Among the conclusions resulting from this review of research are these: (1) The little research directed to needs of ethnic minority students has been underutilized; (2) the research was based on a social pathology model of cultural deficit and on stereotypes of cultural disadvantage without identifying positive attributes; (3) a negative self-concept was seen as the biggest block to motivation; and (4) staff attitudes and behaviors are critical variables in providing effective training. The paper reviews some discernible research trends with positive directions for the future of ethnic minority students, particularly research based on the concept of bioculturalism. Finally, eight questions are presented which need to be addressed by future vocational education research targeted to minority needs. These questions involve interdisciplinary research, equal access to higher education, teacher expectations and effectiveness, the use of paraprofessionals and tutors, and community involvement. (NJ)

VOCATIONAL EDUCATION RESEARCH AND DEVELOPMENT FOR ETHNIC MINORITY STUDENTS

VT-103-364

Phyllis D. Hamilton
Stanford Research Institute
Menlo Park, California

August 1, 1975

Overview

The past decade has found innumerable critics assailing the ability of the public school system to make a difference in the life chances of ethnic minority students. Less frequently critiqued are the underlying assumptions that have determined the direction and content of the research conducted for minority group needs. For the most part, a social pathology model of behavior has been the major basis for theory construction and research; vocational education--a relative newcomer to the research scene--by and large, has followed the same paradigms.

Issues in minority group research are compounded by problems of definition--ethnic minorities have generally been included in categories of "disadvantaged," "culturally deprived," etc. Since so many of the American poor are also members of ethnic minority groups, they have also been studied in the context of "the culture of poverty."

The high expectations of the 1960s that minority group needs would be met through programs based on a cultural deficit model have not been realized; new approaches are being developed. It seems especially timely, then, to examine vocational education research in relation to its congruence with past directions and future trends in the larger social science research establishment.

One major critique by Christopher Jencks has particular relevance in an assessment of past and future directions in research for ethnic minority programs. Since the prime objective of vocational education is producing students with skills that will make for a competitive position in the workplace, Jencks' theses are particularly significant. Jencks contends that the amount of variance in individual occupation and income that can be explained by educational variables is quite small and that overall very little relationship has been established between school quality and ultimate economic success.[1/]

Other recent criticisms also have been directed specifically to vocational education's perceived failure to meet the needs of minority students. A study by Wilford Wilms found that neither public nor proprietary vocational schools had achieved much success in helping minority students overcome barriers of class and income. The research found that minority students were more likely to choose postsecondary proprietary schools at a cost of twenty times more than the out-of-pocket cost of public school vocational training. Yet, as employees, these students had not gained in occupational status and, in fact, were making essentially the same job earnings as public school graduates. Only two out of ten minority graduates from both public and proprietary schools who chose professional or technical-level training ever got professional or technical-level jobs; the rest became clerks or took low-paying unrelated jobs.[2/]

The well-publicized Wilms study has led to considerable controversy educators, legislators, and others concerned with the quality of vocational education in the public schools. That it has received so much attention may, in part, be attributed to the fact that few if any research studies of this nature have been conducted. The amount of vocational education research conducted has been relatively small and has received far less attention than that conducted by the academic component of the educational system. Vocational educators, by and large, have conducted their own research.

A few major studies focused on ethnic minority group issues in vocational education, however, have been conducted by social scientists. Grubb and Lazerson suggest that the introduction of vocationalism at the turn of the century led to a reassessment of the meaning of equality of educational opportunity. Vocational education contradicted a central tenet of the public schools: a common education for all students at each level of the system. Although hailed by its proponents as a democratizing force, vocational education served to reinforce social class lines and to perpetuate the hierarchial caste system of the labor force:

> In essence, curricula differentiation, categorization of students by future economic roles, and the adjustment of the curriculum to the economic demands of the marketplace became the defining characteristics of equality of educational opportunity. Only by these means could individuals on the fringes of society--the poor, racial minorities, the "manually motivated"--be integrated into the educational system and then into the labor force.3/

One major study traces the separatism between vocational and academic education from its origins prior to the enactment of the 1917 Smith-Hughes Act, until the present. It finds that the prediction made by John Dewey in 1913 has indeed come true:

> The question of industrial education is fraught with consequences for the future of democracy. Its right development will do more to make public education truly democratic than any other one agency now under consideration. Its wrong treatment will as surely accentuate all undemocratic tendencies in our present situation, by fostering and strengthening class divisions in school and out.4/

The lack of an integrated research effort has been noted by leading vocational researchers such as Rupert Evans:

> We have at present no researchers concerned with the whole of vocational education. Not only must full-time personnel be allocated to the research function but personnel from the various disciplines and professions must also be enlisted for the task. Vocational education as a powerful social, economic, and technological force can only be the product of knowledge originating from a research-team effort. Research--data and methodology--must become interdisciplinary in nature, attack, and application.5/

An interdisciplinary research effort was viewed as particularly important if vocational education were to meet the mandate of VEA of both 1963 and 1968 to conduct research designed particularly for youths "in economically depressed communities who have academic, socioeconomic or other handicaps that prevent them from succeeding in the regular vocational education programs."6/ Attesting to the difficulty in meeting the needs of "disadvantaged" youth, Melvin Barlow joined Evans

in a similar plea for a cooperative effort among several areas of education:

> Education, in general, has failed to help the disadvantaged youth and vocational education has largely eliminated this group by imposing selection devices...But vocational education alone cannot solve the problems. Several areas of education must combine their efforts and work cooperatively if effective action is to result.7/

A vocationally oriented study conducted in 1971 did examine social science studies focused on issues related to the "culture of poverty." The study found that in the light of more than a decade of research in other disciplines, the assumptions with which occupational educators had approached the problems of poverty appear rather simplistic. In the report, Dr. John Coster claims that the fundamental assumption of vocational educators appears to have been that providing opportunities for appropriate training would somehow solve the problems of poverty and disadvantage. Yet, he states, these problems appear to involve cultural and psychological factors that magnify them far beyond what occupational training alone can handle.

The researcher, Marjorie Kelley, notes that many of the notions about motivation, levels of aspiration, and commitment to certain broad cultural values have been challenged by empirical research. Experiences of the poor, the study finds, have produced a different cognitive style or pattern of learning. Kelley recommends a future approach that emphasizes building occupational training programs on identification of positive attributes:

> What is perhaps needed is an imaginative approach to tapping the latent motivations and aspirations that do exist among the poor and combining these with methods of skill training that make optimal use of the personality characteristics that have been developed as a result of living in impoverished conditions.8/

Such an approach appears consistent with what some educators view as an emerging trend to a bicultural model of education. Evidence of this trend is seen in the burdgeoning literature[9/] dealing with cultural pluralism, in the number of school districts initiating multicultural programs, and in Federal, State, and local legal actions (e.g., The Bilingual Education Act of 1968, the Supreme Court's decision on Lau vs Nichols).

A model of cultural pluralism diverges from the social pathology model of behavior that has been the major basis for theory construction and research targeted to ethnic minority student needs. A bicultural model provides a basis for creating programs that view the student's difference as a means of furthering his acculturation into the mainstream while maintaining his cultural identity; the social pathology model views differences as deficits. The social pathology model continues to undergird many of the compensatory education programs initiated in the 1960s. This "melting pot" ideology that has permeated vocational education since its inception, carries with it a hidden message of cultural superiority. In 1971, conformity, standardization, and efficiency rather than diversity were the hallmarks of progress in education.[10/]

Today, however, is a time of reflection and reassessment. Under legislative mandate, the National Institute of Education (NIE) is conducting an intensive assessment of the compensatory education efforts of the last decade while four alternative approaches to compensatory education are being developed. Some of these alternatives include further development of the more promising approaches in compensatory education--use of community-based classroom paraprofessionals, citizen participation, multicultural curricula, and individualized instruction. One alternative will be to develop the concept of older student tutoring; another will focus on new approaches to compensatory education at the adolescent level.

Concurrent with the NIE research, the U.S. Office of Education (USOE) will be conducting an assessment of vocational education programs for the disadvantaged. As would be expected, given the separatism between vocational and nonvocational research programs, little, if any, relationship is apparent between the two efforts.

It seems especially timely, then, that vocational education research also should be examined for the extent to which it has been targeted to the needs of ethnic minority students.

To achieve the major objective of vocational education--employability--the needs of the ethnic minority are essentially the same as those of majority students. All need basic academic and communication skills; broad-based vocational skills; effective decision making regarding

occupational choice; access, if desired, to postsecondary education; and a higher self-concept. However, meeting these overall needs for underachieving minority students requires a different process. Elements assumed to be important in this process are perhaps best described in a 1974 assessment of ethnic minority student needs sponsored by the California State Department of Education:[11/]

> The use of certain strategies and techniques in instruction, counseling, placement, and other critical program processes will tend to be more successful with minorities than would other processes or techniques.
>
> A given vocational education program's personnel, as well as its mode of operation, may be differentially perceived and accepted by each of the target minority groups.
>
> Ethnic minorities have special needs in vocational education which are the results of their cultural differences and their historical development in this society.
>
> The failure of ethnic minorities to successfully complete vocational education programs is a responsibility which program staff and the students must share.
>
> The efforts and attitudes of teachers, counselors, and administrators are important factors in minority student success, and if these improve, the success of minority students will be enhanced.

Therefore, the research conducted since VEA of 1963 will be examined within this framework and from these perspectives.

The Scope of the Research

After enactment of VEA of 1963, one early seminar brought vocational leaders together to discuss the problems of administering the new research. In the main, the seminar focused on strategies of change through the research process, with recognition that "implementation of action will probably not ensue unless we specifically plan and create a favorable climate for change."[12/]

Despite some resistance, there was general support for the idea of including in the research effort related disciplines that appear to logically support vocational education (e.g., economics, psychology, sociology). In fact, Everett Rogers, a leading sociologist who has conducted extensive studies in innovation diffusion, presented the group with some of his major findings. Describing the increasingly rapid rate of change in the innovation adoption rate, Rogers pointed out that programs based on needs as perceived by members of the client system are adopted more readily and permanently. At the same time, Rogers advocated the use of lay advisory groups to advise on research needs and to aid in the evaluation of research.[13/]

Another participant in the seminar reminded his audience that "vocational education research monies must be made available to focus upon research problems which are directly related to the specific objectives of the Act."[14/] Yet, there is little evidence that the legislation's

specific directive to focus on special vocational needs of youth was even an item of concern on the agenda. In fact, the only recorded mention of special need students was related to the perceived need for involving school personnel in research for the "culturally deprived."[15/]

This theme--utilization of school personnel in the planning and conduct of research--was sounded throughout a second seminar in 1966 designed to assist the newly formed Research Coordinating Units (RCUs) in planning efforts. The seminar report contains extensive deliberations about the relative merits of action versus basic research. One vocational leader argued strongly for a major thrust in action research "that gets teachers and school people involved as part of the total team so that dissemination and diffusion will be built into research efforts."[16/]

As in the earlier seminar described above, however, little attention was given to the relationship of research to special needs of ethnic minority students. One remark, however, reflected the expectation level of a conference participant as he speculated on the type of preparation "disadvantaged" youth should be receiving for adult careers:

> What role should occupational education be playing in preparing the disadvantaged youth for not only a vocation, but for their role as adult citizens? I think it's time that you began taking the initiative of preparing youth for cussessful careers as adults in sub-professional occupations.17/

The hope of early USOE administrators of vocational education research apparently was that special needs of ethnic minority students would

be met through research of concern to vocational education generally. That is, within such priority areas as curricula, resources development, guidance and career choice, and other areas noted as research needs for FY 1967-1969, the special needs of minorities would be addressed. The view also was held that any research that benefited vocational education overall would also benefit minority students as well as all other students. This perspective may, in part, account for the generally low level of effort in research specifically targeted to minority student needs.

The problems of identifying ethnic students within the general rubric of research directed to the "disadvantaged" made it impossible to provide a precise figure on research that was indeed related to minorities. From FY 1964-1969, however, such research apparently accounted for approximately 8 percent of the total Part 4(c) funding.

Not until FY 1971 was a category of "disadvantaged" singled out as a separate research priority. In that year, research targeted to minorities is estimated at about 3 percent of the total. The career education orientation of the FY 1972 and 1973 Part C program makes it impossible to extract the relative proportion of funding directed to minorities. In FY 1974, however, when the "disadvantaged" category became one of five priority areas, minority group research appears to represent about 5 percent of the total. Again, in FY 1975, minority interests are one of five identified areas with the emphasis specifically on educational personnel

serving "disadvantaged" groups.

A partial rationale for this relatively small amount of targeted research can be found in responses obtained from a 50 percent sample of Directors of State Research Coordinating Units, special need programs, and Vocational Education Personnel Development Coordinators. About one-third of these respondents share the view of early USOE administrators that all vocational education research conducted in their States is designed to benefit ethnic minority group students. Few differences in opinion are noted among the three classes of respondents.

For the most part, the State respondents indicate that priorities for the research conducted for ethnic groups are set by a combination of research and other administrators in State Departments of Vocational Education, generally with input from regional or local Directors of Vocational Education, some with assistance from advisory committees composed of representatives from business and industry. Little involvement of minority group personnel is noted. At the Federal level, priorities are now set with input from a panel that includes ethnic representatives who also critique proposals submitted.

The traditional gap between researcher and practitioner was noted as a problem at the Federal level in the early years of Part 4(c) program. Complaints were voiced that program people were not consulted on research priorities. Today, however, the Special Needs Program Coordinator in USOE's

Division of Vocational and Technical Education is included as part of the research planning and proposal review process.

The number of contracts awarded in any given period to ethnic researchers can not be traced, but they appear to be few. In FY 1974, however, two contracts were awarded to Native American tribes, closely paralleling the number of Native American teachers in vocational education--0.01 percent.[18/]

"Grantsmanship" has been viewed as a major problem by members of minority groups seeking research contracts. A Leadership Training Institute for vocational education held at Savannah State College in 1968 pointed to the need for special assistance to make small black southern colleges competitive with larger, more highly specialized research institutes and organizations. One participant commented that individuals and agencies may be securing funding by being adept at proposal writing while, in fact, possessing little knowledge of the real issues involved. What is needed, he claimed, is Federal assistance in the form of "seed money:"

> Seed money and/or on-the-site assistance must be provided black institutions for the purpose of writing acceptable proposals. It must be remembered that these institutions are basically undergraduate teaching institutions and do not have the personnel nor the expertise for developing acceptable proposals in terms of their need for assistance. Because of the lack of "grantsmanship" ability, these institutions have faired badly in obtaining Federal assistance for their programs.19/

No evidence can be found that such Federal assistance has been provided.

Research by Educational Levels

Since the mandate of VEA of 1968 was to expand vocational education at both the elementary and postsecondary levels, it seems important to examine the extent to which the research conducted was congruent with these programmatic shifts of emphasis. Therefore, the subsequent description of the research is organized by its focus on students in a given educational level. Thus, the research addressed to the needs of ethnic students in grades 1-6 is grouped under the elementary school level; the junior high school level considers grades 7-9; and the secondary school level concerns grades 10-12. Research directed to postsecondary students is grouped into two categories: the junior/community college or technical institute and the four-year college level. In addition, research targeted to adult and community needs is described.

Although these categories overlap somewhat and precise figures can not be provided on the relative amount of research targeted to the various levels, some rough estimates can be derived. Within this framework, major themes of vocational education research for ethnic minority student needs are traced through the decade 1965-1975 and touch on studies conducted under Part 4(c), VEA of 1963; and Parts C, D, and I of VEA of 1968. For the most part, the research considered is limited to that specifically

targeted to ethnic minority students but, where appropriate, research under the more general label of "disadvantaged" is included.

Elementary Level

Under Part 4(c), VEA of 1963, little research activity was directed to the ethnic elementary student; in fact, only one such Federally funded project was identified. This particular study investigated individual differences that affect the elementary school child's ability to acquire word understanding. Groups of eight children were administered a "word context test." Twelve different groups were formed by varying grade level (third versus sixth), sex, and socioeconomic status (white middle class, black lower status, and white lower status). In each of the six sentences in a test, the same nonsense word was inserted. The subject's task was to examine each sentence in turn and to infer the meaning of the unknown word from the way it was used in the sentence. Contrary to hypothesis, there were no significant differences between groups from different social strata on any of the measures that were scored.[20/]

The emphasis on elementary students found in VEA of 1968 and the subsequent USOE priority assigned to career education resulted in a significant increase in elementary level research in vocational education starting in FY 1971. There is, however, no method by which to separate out from the total research conducted under Parts C and D of the 1968 Act that which was addressed to ethnic elementary students. Most projects were of a

comprehensive K-12 career development nature with the elementary level focus on providing students with an orientation to "the world of work."

A major evaluation of both Federal- and State-administered Part D exemplary projects (career education), however, found that projects generally devoted 26 percent of their Part D funds to pay for elementary school activities involving approximately 2,000 students per project. The students participating in elementary activities usually amounted to less than half of the total elementary school enrollment of the grantee and accounted for over half of the total number of project participants.[21/]

Although the greatest impact of the Part D programs was found to be at the elementary school level, the evaluation provides little of value for the purposes of this paper. It does not reference minority group students nor the extent to which the Part D projects focused on meeting their special needs.

An examination of project abstracts, however, shows some major themes of interest here. All five of the Federally administered Part D exemplary projects funded in FY 1973 that appear directly targeted to ethnic students include an elementary component that provides career awareness activities for grades 1-6. Of particular interest is the tricultural program in Bernandillo, New Mexico. The operational setting encompassed five Indian reservations, with the student population approximately 50 percent Native American, 40 percent Spanish-surnamed, and

10 percent Anglo.[22/]

One Part I curriculum project, conducted by Central Texas College, used Telecomputer instruction to familiarize Spanish-surnamed children in grades 1-6 with career education concepts as well as to acquaint teachers with the new instructional techniques. The project developed a prototype package containing 60 minutes of combined televised and computer-assisted instruction.[23/]

Junior High Level

During the period 1965-1969, four Part 4(c) projects were targeted to the junior high school student: two were research and two were training projects. One of the research studies was concerned with the influence of the father's job and social status on the occupational and social goals of youth. The study found that among adolescent boys, a strong orientation toward the father and a disinterest in the youth culture will predict involvement in the college-bound high school program; conversly, weak orientation will predict potential drop-out status in high school. A recommended strategy was that more effective work role models should be provided for potential drop-outs.[24/]

A second Part 4(c) research study in 1968 examined the vocational development of disadvantaged junior high school students. Conducted in four regions of the United States, the study measured the perceptions of 2,370 students toward school, work, family, peers, and self. Subjects

were selected from one school serving primarily disadvantaged students and one serving nondisadvantaged in each of four school districts with enrollments ranging from 50,000 to 100,000 students. Unexpected results were obtained. Most teachers surveyed indicated that disinterested parents and broken homes primarily contributed to the disadvantaged status of the students; yet, a relatively high percentage of families in the disadvantaged group had both parents present, and far fewer differences in vocational considerations, plans, and influences existed between the two groups of students than had been assumed.[25/]

One of the two training projects conducted with Part 4(c) funds included counselors and the other vocational teachers. The first was, in effect, a 1966 two-week developmental program designed as in-service training for 29 counselors in employment, trade, technical, and school settings. A major theme of the workshop was capitalizing on the strengths of the kinship systems in the poverty communities visited and breaking down established stereotypes of the poor. A major recommendation was that studies be conducted to determine how subprofessional persons not fully qualified as counselors might be used by schools and community agencies.[26/]

The second workshop targeted to the junior high school level found 17 vocational teachers working with a demonstration class of 20 underachieving students to design, construct, and test prevocational core

curriculum. Results from pre- and posttaped interviews showed an increase in student knowledge of the occupations studied. On the basis of the results, teachers concluded that a negative self-concept was the largest block to student motivation. They recommended that vocational teachers be provided with opportunities to spend at least a week living in or near a poverty area and that "big sister" or "big brother" programs be initiated for tutoring on a one-to-one basis.[27/]

As with the elementary students, we have no information from the evaluation at the junior high level of the Part D exemplary projects in 1971-1973 regarding the extent to which they focused on minority student needs. The evaluation does indicate, however, that Part D projects generally devoted 29 percent of their funds to activities at this level, involving some 47 percent of the total junior high enrollment of the grantees. In general, the evaluation found that the Part D projects had less impact on students at the 9th grade level.[28/]

A Part I curriculum project funded the National Business Education Association to develop a curriculum in business ownership for students in grades 7-9, with some emphasis on minorities. The instructional units include information on business, communications, economics, and the behavioral sciences.[29/]

Secondary Level

As would be expected, given that the secondary school has been the traditional stronghold of vocational education, most of the activity funded under both Part 4(c) of VEA of 1963 and Part C of the 1968 VEA was directed to the secondary school level.

Training seminars and workshops conducted by the Center for Occupational Education at Ohio State University between 1967-1969, appear to constitute the major Part 4(c) activity for ethnic minority students at the secondary level. One early workshop for vocational teachers attempted to identify some of the significant R&D needs in technical teacher education, but made little mention of the skills needed for effective teaching in disadvantaged communities. Recommendations were made, however, that a pilot program using teacher aides be initiated and evaluated by a conventional control group design.[30/]

This theme of use of classroom paraprofessionals runs through many of these workshops. Differentiated staffing and needs of disadvantaged students, in fact, were the two major problems discussed in a 1968 national seminar for vocational teacher education. In discussing the merits of differentiated staffing, Rupert Evans suggested the use of student tutoring:

> As nearly as I can tell, the lowest level of differentiated staffing is one student teaching another student--an advanced student teaching a less advanced student. We have seen this in operation, you have all used it in your teaching, and we know very little about how it works and how we can make it work better. Why do you not try some experimenting on this, working with actual students doing teaching?[31/]

Evans also recommended that local adult experts and practitioner be called on to teach on a part-time basis in the school, serving as a liaison between students and members of the local community. He noted the readiness of the field for such differentiated staffing, claiming that the uses for community practitioneers are more abvious and more extensive in vocational education than in academic areas. On the other hand, however, the prediction was made by L. O. Andrews that it "is precisely because of these differences that vocational education will tend to shy away from the whole concept of differentiated staffing without seriously considering the possibilities."[32/] And a document prepared for the training of school administrators had this to say about the use of classroom assistants in vocational education:

> This can be a dangerous practice unless the paraprofessional is screened carefully and trained properly. A paraprofessional with a life style similar to the student may actually contribute to his delinquency. Quite often, members of this group seem to require more supervision and guidance than their services are worth.[33/]

Through most of the teacher training workshops of the 1965-1968 period run the major themes of the 1960s relating to ethnic minority students--low self-concepts, environmental deprivation, lack of motivation.

Some stereotypes are found in pronouncements by leading sociologists; for example, poor people often articultate less affection within their families than do people who are not poor, and poor parents seem to punish more often than do others. At the same time, the importance of teacher expectations for underachieving minority students in vocational education was often stressed and workshop reports frequently cited the findings of the Rosenthal study.[34/]

It was not until 1971 that a major theme of cultural difference emerged in a series of three workshops for teacher educators in the business and office occupations fields. These workshops were designed primarily to increase the understanding of culturally different youth and the community in which they live. The first workshop was held at Temple University in Philadelphia, Pennsylvania. Because the population served by the attending teachers was predominantly black, this minority group became the focus of the workshop. Speakers and panel members included some with considerable experience in such programs as Teacher Corps and Upward Bound. The thrust of the workshops was on finding the strengths "that have enabled survival in an alien culture and using such strengths as the basis of curriculum development and teaching methods."[35/]

A second workshop in this series, held at San Francisco State University in California, focused on needs of Native American students. The final seminar, held at Hunter College in New York City, provided

clinical experiences in which teachers visited community agencies, hospitals, New York City night courts, and similar places. In all of these workshops, a heavy emphasis was placed on getting workshop participants out into the community to observe first hand the conditions of living and the diversity of community organizations serving culturally different groups.[36/]

Four research studies on ethnic secondary students were conducted under Part 4(c). The earliest was a follow-up normative study of black intelligence and achievement in 312 black secondary school students. As with other popular studies of the period, it concluded that remedial steps for increasing the performance of black children must begin at preschool age:

> To substantially modify the academic and intellectual deficiencies that one finds in a culturally deprived population, one quite probably must bein in the preschool years to make a drastic modification in the environment such that the conceptual repertoire of these children may be expanded to enable them to take full advantage of the intellectual stimulation which occurs in school.[37/]

A second research project investigated the impact of guidance programs on students' counselor personality was by far most related to outcomes.[38/] Another project sought to develop and validate mathematical units prepared in tutorial sessions with forty-two tenth grade students in a large innercity high school. Students in the experimental group

scored significantly higher on criterion tests administered.[39/]

Another early research project studied communications patterns between high school teachers of vocational agriculture and disadvantaged youth by use of the semantic differential. The lowest socioeconomic group and the middle socioeconomic group both placed a higher value on the word "cooperation" than did the highest socioeconomic group.[40/]

Under Part C and D, VEA of 1968, as with the elementary and junior high school level, the evaluation of the exemplary projects at the secondary level provides little of benefit for the purposes of this paper. Fewer activities were conducted at the senior high school level, however. Secondary school participants represented approximately 15 percent of the total number of Part D project participants including some 650 participants per project, and represented approximately 35 percent of the total high school enrollment of the grantee.[41/]

Unique features of Part D projects noted elsewhere, however, included Indian and Spanish-surname paraprofessional persons working with students and occupational information provided in the language of the home. Learning skills in arithmetic, social studies, and language arts are related to occupational skills. Similar emphases are noted in three of the other Part D projects. Using a community development approach to a career center, the new Urban League of Greater Boston included black role models and other significant adults from the staff of the community center.

Operation Bridge in Colorado was an outreach program that used a referral network within the community including tutorial aides and counseling techniques involving the Mexican-American family unit.[42/]

Using Part C research funding, several States simply tried to identify and assess the status of vocational education programs for disadvantaged students. Identification of students, however, is a major problem in the States and there is much ambiguity of definition.

Two of the most comprehensive assessments targeted to ethnic students were conducted in California and Texas. The three-volume California study presents the findings of an in-depth study of fourteen vocational education programs located throughout the United States. The study's purpose was the construction of vocational education models that would attract, retain, and successfully train secondary level ethnic minority students. Additionally, the study sought to identify the recruitment, instructional, counseling, and placement and follow-up strategies that have proved successful with Black Americans, Mexican Americans, Native Americans, and Asian Americans. Individual attention from teacher to student is seen as the most effective means of motivating the minority students, with staff indicating "teacher or staff expectations and attitudes" as the agent responsible for successful motivation. According to the students themselves, the most important thing vocational education programs can do is to provide them with work experience.[43/]

A series of studies on ethnic students in Texas vocational education programs was conducted by the Center for Human Resources at the University of Houston. Among the recommendations of one study targeted to Mexican American youth were the following:

> School systems should be aware of the difficulties of trying to come to grips with two cultures and take measures to counteract them in order to optimize the potential of Mexican American students.
>
> School systems should seek both from within and without the barrios to find role models--Mexican Americans whose background, history, and education have paralleled those of the students, but who have now achieved some degree of observable success. These should be made available to students for individual consultation.[44/]

Technical assistance was provided to the Northwest Indian Council of Education under a Part I project. The Northwest Regional Educational Laboratory produced a state-of-the-art study on curriculum development for occupational education of Native Americans.[45/]

FY 1974 projects at the secondary level focus on attitudes, aspirations, career guidance of minority youth. A Mississippi State University project seeks to determine the relationship of student progress to the development of self-concept and attitudes toward school, work values, and occupational choice.[46/] A New Mexico project will compare occupational aspirations held by three cultural groups--Native Americans, Mexican Americans and Anglos.[47/] In an attempt to provide information about why vocational education programs are either rejected or accepted by minority

students, Far West Laboratory will study attitudes of five ethnic groups in five San Francisco Bay Area counties.[48/]

A contract with the Colorado River Indian Tribes is designed to improve career guidance systems for Native American youth. High school sophomores who are members of the Colorado River Indian Tribes will constitute the experimental group. One major objective will be to increase motivation of Native American youth by demonstrating that avenues of occupational self-determination may be explored without abandoning cultural heritages and traditions. An important component of the project will be in-service training for secondary school counselors; pre- and postinterviews will endeavor to determine the expected increase in counselor awareness of career possibilities.[49/]

One Part C project is designed to develop models of vocational education programs for minority students in four categories (Black, Spanish-surname, Asian American, and Native American). The study proposes to use data from school districts serving the 50 largest cities in the United States and to identify elements which are associated with "more successful" and "less successful" programs as determined by rates of completion by minority students enrolled in programs for the 1973-1974 school year. Based on findings, the study will recommend program models that appear to meet the needs of each ethnic group, including detailed description of the most effective methods and strategies for implementing these programs.[50/]

Dropout

In the 1964-1969 period, three major developmental projects focused on the needs of high school dropouts. A comprehensive project was conducted in the Bedford-Stuyvestant area of New York City. Under the laws of New York State, Training Resources for Youth, Inc. (TRY) was formed as an independent membership corporation to conduct a demonstration training center for out-of-school, out-of-work, or underemployed male youth age 17 though 21. For the TRY trainees (who were predominately black), the goal was to find black males who would be positive role models to the youth as well as effective teacher counselors. The basic model used for the TRY program was called "The Life-Skills Education Model." This model attempted to link together the cognitive and emotive aspects of a person's experiences.

The most important findings concern the possibility of being able to differentiate between several graduating groups and several potential dropout groups early enough in a training program so that differential strategies may be used to meet the specific needs of these groups. Of the 544 trainees who were enrolled in the TRY project, results show that 48 percent graduated, 45 percent dropped out or were discharged, and 7 percent terminated for reasons not related to the project. A follow-up study of the graduates shows that 12 percent went to college, 76 percent were placed in training-related jobs, 7 percent went to the armed forces,

4 percent were placed in nontraining-related jobs, and 1 percent went on to other training programs.

One of the most striking findings in the data is that more than 12 percent of this high school dropout population has the basic capacity to handle college work. Moreover, more than 40 percent of the total group scores about the average of the general population. Perhaps even more important is that fully two-thirds of this dropout population fall in the normal, or high classifications of learning ability. This finding was viewed by the researchers as verifying an assumption of cultural strength and diversity:

> This is a powerful verification of the position taken by a number of professional persons, but generally not accepted by the average layman, that there is as much diversity of talent and ability among disadvantaged youth who have dropped out of school as there is in the total population.[51/]

Researchers recommended that training programs for this group provide a diversity of educational opportunities equal to the diversity in the population they seek to serve. Two major considerations, they suggest, should be incorporated into the overall design of such training opportunities: individual ability and program diversity. Although the TRY project was considered to be one of the broadest and most multi-dimensional training programs available at the time, it was found to be too narrow. Researchers recommended that the range of vocational training programs be expanded to include major areas that would build

on the trainees' previously tested interest.

Staff included 40 youth advisors, as well as teacher-counselor role models. The study, in fact, recommended that the use of such youth models be tested in other settings, particularly junior high and secondary schools having significant numbers of disadvantaged youth.

The Washington School of Psychiatry in Washington, D.C., attempted to develop a program for the rehabilitation of high school dropouts with delinquent records. Here the objective was not to provide job training, but rather to prepare for jobs by using a behavior modification model. Effort was made to raise students to a high school graduation level through use of programmed materials and cash rewards; youth were paid for attending classes, passing tests, working on community projects, and other related tasks.

Unfortunately, project funds were cut prematurely. Of the 163 black youths who participated at some time during the program, only 42 were actively participating when the program terminated. Thriteen of 22 participants who took the general educational development test passed it although there was little success in efforts toward the use of job training and no evidence that the antisocial or delinquent behavior of the group was diminished to any significant extent. Participants were reported to be interested primarily in "beating the system." The study concluded, however, that the process is worth pressing further, provided that a great deal of

money and community involvement can be secured. Most important future need was seen to be for a "new breed of teachers:"

> A school of this kind calls for a new breed of teachers, themselves close enough to the ghetto to identify with slum children, but not so close as to resent a need to change their own behavior as teachers.[52/]

The most comprehensive of the dropout projects, however, was an experimental project for approximately 1,500 unemployed "functionally illiterate" innercity black youth in Chicago. This study attempted to understand and deal with the motivational problems of poverty populations. A major issue was seen to be problems of expectancy--motivational problems of youth came not from a lack of desire for societal goals, but from feelings of powerlessness in attaining these goals.

The complexity in issues raised was found to relate to the limitations that take an individual program approach to these issues. The discussion underscored the importance and value of programs that attempt to combine betterment of job training with a community assault on the problem of powerlessness:

> These approaches involve setting up vocational programs not as isolated units but as integral parts of broad community-wide programs attempting an integrated assault on many of the basic problems the communities face.[53/]

Such group-oriented action was seen as important for the psychological and motivational health of the trainees as individuals.

Only one project related to minority group dropouts was identified in Part C research. In the fall of 1971, the counseling department of Sandhills Community College in North Carolina became concerned about the large number of dropouts in the area. Two professional counselors and two students, or peer counselors, began identifying and seeking out disadvantaged youth. The student counselors, who came from a socioeconomic environment similar to that of the dropouts, were encouraged to relate to the youths on a peer basis and to project the feeling that academic achievement leading to vocational success could become a reality to them.

During the two months the program was conducted, the four counselors were able to contact only 46 of an initial target group of 678 dropouts. Twenty-four of the 46 did enroll at Sandhills Community College; 11 began working to complete their high school requirements or an equivalent and 13 enrolled in an occupational program. A major reason for lack of motivation in attending college was the low expectation for finding employment after graduation. Major problems were seen to be testing, applications for financial aid, and transportation.[54/]

Postsecondary Level

Only one Part 4(c) project was located that focused on the needs of minority students at the two-year postsecondary level. Bronx Community College in New York City developed a comprehensive curriculum for an experimental program in Industrial Technology for disadvantaged youth.

This planning resulted in a proposal for a five-year, $1 million effort that never was funded.[55/]

As nearly as can be determined, following VEA of 1968, a large upswing occurred in the amount of research directed to the junior college level generally. This increase also is reflected in the postsecondary research that was more-or-less relevant to minority needs.

The major effort, however, appeared to be in developing either identification or evaluation procedures. The State of Virginia sought to determine the potential number of disadvantaged students by each of its 22 community college regions and then to make recommendations for program planning. Again, the same ambiguity of definition found at the secondary level was noted. The majority of the colleges contacted indicated that they had no special courses or programs other than vocational rehabilitation courses aimed specifically at disadvantaged students nor did they have any method for identifying such students and offering them special services. Coordination of programs at the State levels and additional specialists such as full-time counselors were seen as primary needs.[56/]

In the second year of the project, the Virginia community college system established a framework in which viable instructional programs would be developed to meet the diverse needs of a heterogeneous student population. Five of the Virginia community colleges undertook separate

action research projects in accordance with their own perceived needs. One of the most successful was judged to be the Peer Counselor-Tutor approach used at Blue Ridge Community College. The gain in the GPAs of the tutorees is the single most significant factor suggesting that the project had desirable outcomes. Although the statistical data were incomplete and inconclusive, there were implications that such tutoring may affect the development of attitudes, study habits, and self-concepts. Counselors perceived that the growth in self-concept of both tutors and tutorees should be counted among the successes of the project.[57/]

A 1973 survey of Minnesota's 33 Area Vocational Technical Institutes disclosed that only 442 minority group students were enrolled, whereas the 1970 Federal Census found 51,000 minority individuals in the State. Findings from a subsequent survey indicated that the majority of minority group students are enrolled in traditional programs such as welding, auto mechanics, and cosmetology; very few are registered in programs of high demand. The survey concluded that the lack of minorities in positions of directors, assistant directors, and counselors has hindered the ability to provide greater access to all vocational programs.

As an outgrowth of this project, a 1975 Minnesota project--Bilingual Vocational Training--seeks to increase participation of Spanish-speaking persons. One major activity will be to encourage and coordinate community resource people and agencies to assist Spanish-speaking individuals with

career decisions and to provide the Spanish-speaking communities with information on all available vocational training and retraining within the State of Minnesota. Basic principles for the bilingual-multicultural approach are:

> Use of the learner's native language will help facilitate the learning process and avoid postponement of cognitive and psychomotor development.
>
> Maintenance and perpetuation of the learners first language will provide a transfer effect in developing other skills.
>
> Recognition of the learner's ethnicity as acceptable and noteworthy.
>
> Recognition of the desirability of bilingualism.

The proposal was developed cooperatively with members of the Spanish-speaking community.[58/]

Four-Year Level

In the 1964-1969 period, experimental projects dealt with providing precollege experiences for ethnic students. One summer writing conference brought together teachers, writers, mathematicians, and scientists from high schools and universities in ten states to develop units in English, mathematics, and natural science. During the 8-week project, some of the 28 participants traveled to Upward Bound centers for experimentation with the evolving materials and returned to discuss results with other conference members.[59/]

The second precollege program was developed for Alaskian natives at the University of Alaska. Aims of this four-year, six-week summer program was to increase the native student's chances of academic success by enhancing his feelings of self-worth through understanding his original culture and his relationship to the larger society. The academic survival rate for COPAN students in 1965-1967 was 52 percent compared to 38 percent for native non-COPAN students.[60/]

No projects were identified in the Part C research that focused on minority student needs at the four-year college level.

Adult and Community

Two of the Part 4(c) research projects appear to focus on needs of minority group adults. One study collected data describing the social characteristics of residents of "Vine City", a black area in Atlanta, Georgia. Black students from a nearby college interviewed 136 persons representing 11 percent of the Vine City's family population. Interviews centered on such community-oriented topics as housing, health, employment, political behavior, and attitudes toward agencies of authority. Most of the respondents merely expressed indifference to the schools in the area and viewed them as another agency of outside authority and irrelevant to the facts of life in the community. But strong resentment and hostility were expressed toward other community agencies viewed as seeking to control rather than assist.[61/]

In Buffalo and Niagara Falls, New York, basic literacy was the focus of a second research project involving 207 innercity adults reading below third-grade level. The project provided training for teachers in the use of adult-centered materials paced to individual learning rates. Gains by the experimental group were significantly higher than those of the control group. The most valuable predictive variables were a relatively higher level of communication and the reading orientation of the family situation. The study recommended a comprehensive investigation to examine the combined effect of early childhood education, remedial education for children in school, and literacy training for adults.[62/]

A third research project studied the effectiveness of curriculum for adult employees on the job. Conducted by the Negro American Labor Council, thirty curriculum modules were developed for updating the technical skills of electrical maintenance employees at a Cleveland steel company. Classes were divided into 2 groups of 20 each. The experimental trainees in each group were loaned an electronic tutor for home use; the control studied the usual text material. Findings indicated that trainees using electronic tutors achieved higher on all measures.[63/]

Two Part 4(c) projects also experimented with the effectiveness of technology. The Mental Health Film Board of New York City produced a 28-minute film designed to make communities aware of the assistance offered by homemaker services provided by health and welfare agencies.[64/]

Operation Gap-Stop represented a pioneering effort in the use of television. Struck by the absence of the use of television in providing information to disadvantaged adult populations, the researchers produced eight 30-minute television programs each providing information in various aspects of community life. Two of these focused on the world of work. Thirty-nine percent of the sample audiences in five units of the Denver Housing Authority "indicated dispositions to change certain behaviors as a result of the special programs."[65/]

The most comprehensive of the community-adult-oriented projects funded under Part 4(c) was a training project that attempted to identify effective strategies that might be used by city and school administrators in planning, initiating, and coordinating manpower and education programs. A four-day workshop, held at the University of Maryland in late 1967, brought together 42 persons from 15 cities that had submitted Model Cities planning grant applications. Although no single strategy for success was uncovered, experimentation, collaboration, and compromise were recognized as essential ingredients. Guidelines developed included encouraging citizen participation and cooperation among educational, political, and social agencies. The Model Cities approach was found to be the best example of paths to be followed in solving the urban dilemma.[66/]

The most extensive community involvement in the Part D projects targeted to minority students appears to be in the one administered by

the New Urban League of Greater Boston, Inc. Vocational guidance and training were delivered by the community agency with the project director reporting directly to the Urban League Board through its president.

A Part I project at the University of Minnesota is developing a comprehensive management education program for small business owners, including minorities. Phase I of the adult education program has been devoted to design and development; panels of businessmen have consulted with project staff in preparing 15 instructional units for the pilot program. In the second phase, minority teachers will validate revised materials before they are incorporated in the final curriculum guide.[67/]

Utilization

There is little definitive information regarding the extent to which the research conducted under VEA of 1963 and 1968 found its way into the behavioral repretoire of the vocational teacher, counselor, or administrator. Responses from the sample States suggest, however, that research had been used very little in developing programs for minorities.

Most of the methods suggested for disseminating research findings center around more-or-less traditional modes--for example, RCUs, State Departments of Education, university research units, ERIC, conferences, and workshops. One State reported some success with a research utilization specialist in a local area school, but found a major problem to be identifying capable research consumers able to establish necessary

rapport with teachers. Another State suggested a superior method would be "classroom or school level demonstration."

Only two States suggested disseminating research findings to minority groups. One recommended sending research findings "to Alaska's twelve Native Corporations through the State Senator;" another suggested that they should be distributed to Urban Leagues, Opportunity Industrialization Centers, Neighborhood Youth Corps, and popular ethnic publications.

Summary Analysis

The preceding review of the vocational education research conducted under Part C, VEA of 1963, and Part C, D, and I, VEA of 1968 has led to the following assertions:

> The small amount of vocational education research that has been conducted for ethnic minority student needs has been underutilized in program development.

In relation to the total effort, little research was directed to special needs of ethnic minority students. That which was carried out has not been utilized to any extent to develop or to improve programs. The early plans for involving school personnel so as to have a built-in dissemination network do not appear to have materialized. There is little evidence that follow-up studies were conducted to determine the extent to which teacher behavior changed as a result of attendance at the training workshops that constituted much of the activity funded under Part 4(c).

There has been little involvement of ethnic minority group representatives in vocational education research for minority group needs.

There is a lack of evidence that the early admonitions of Everett Rogers were heeded; that is, to conduct research based on needs as perceived by members of the target group and to use lay advisory groups in the conduct and evaluation of research. The underrepresentation of minorities in the State vocational education R&D work force is also a critical lack; minorities who themselves are members of target groups can be expected to have insights that nonminority research personnel do not have.

The research conducted for ethnic minority needs for the most part was based on a social pathology model of cultural deficit.

Predominate themes that run through much of the vocational education research of the 1960s on ethnic minority issues echo those found in the general social science research based on the underlying assumptions of the social pathology model. The preponderance of the research conducted between 1964 and 1969 tries to identify and describe the disadvantaged population and their specific socioeconomic and environmental deprivation. For the most part, characteristics are viewed in terms of deviance from national norms and thus perceived as deficits. Although the range of individual differences among various groups of students is probably as large as the range within the members of any group, most of the research seems to infer that the characteristics of any ethnic group must be

found in all members of that particular group.

> The negative image of vocational education held by minority groups has been reinforced by labels such as "disadvantaged."

The negative image vocational education has for a large number of minorities is compounded by the use of such terms as "disadvantaged and handicapped." Resenting these labels, minority students and parents believe they were designed specifically for use in their identification. In discussing the categorization of minority groups in the United States, Nimnicht and Johnson conclude that such labels actually reflect an ethnocentric point of view:

> The element that determines which system of categories prevails is usually power--as measured by ascertaining who has access to the resources and institutional systems. Low income people in this country, especially those whose life style differs from that of the dominant majority, have relatively little access to educational, economic, and social resources or to the consequences of the categories into which they are arbitrarily segmented by the majority. In such a categorization of minority groups with differing life styles, the labels frequently echo an ethnocentric point of view or reveal a tendency to interpret and evaluate the life styles and values of others on the basis of one's own life style.[68/]

> Much of vocational education research has been based on stereotypes of "cultural disadvantage;" few have tried to identify positive attributes.

The vocational education research is replete with the rhetoric of the various environmental descriptions that permeated most of the compensatory education literature of the 1960s. One author suggests that many of these descriptions are simply idle speculation or reliance on previous

writers. Many of the theories regarding minority group child-rearing patterns, for example, grew out of contrived experiments in social science laboratories, not in naturalistic settings. Lee Rainwater who actually studied a few such families for six years found minority group children the subject of relaxed and protective care:

> Often in larger families quite a number of people attend to the baby's needs: older sisters, the mother, and sometimes the grandmother as well. In this situation, the baby may be the subject of constant attention, being passed from hand to hand or later toddling from person to person and always receiving amused interest.[69]

Richard Farson speculates that in social science's haste to emulate the research paradigm in the physical sciences, we have bypassed the naturalistic stage from which the other disciplines evolved:

> Because of our need to compete with the physical sciences, behavioral scientists have skipped over, by and large, the naturalistic stage from which other disciplines developed. We have not been people-watchers as biologists and bird- and bug-watchers. We have moved too quickly into the laboratory and looked only at special populations of people under special circumstances; we have thought we could derive generalizations about human behavior without first gaining the kind of understanding that could come only from years of looking at how normal people behave in normal circumstances, performing normal tasks.[70]

A few vocational education research projects contradicted some of the stereotypes that were frequently cited in the research literature. One study found far fewer differences in vocational aspirations between black and white students and parents than had been assumed, confirming a finding in Deutsch's study of race and social class:

> The results contradict the stereotype of the Negro parent being intrinsically less motivated for his child than his white counterpart. Negro parents express significantly higher occupational and educational aspirations for their children than does the white group as a whole. This trend is also reflected by the Negro children themselves whose occupational aspirations are significantly higher than those of white children.[71/]

A few--but only a few--discussions of vocational education research projects suggested that a more profitable approach might lie in identifying the positive attributes of minority group students.

> Specific skill training was a major emphasis of vocational education research for ethnic minorities, although remedial basic academic training was a minor emphasis.

A few of the projects were directed to improving the basic academic and communication skills of underachieving minority students. One secondary level study found that math units developed with student input were superior to those developed by teachers. Both the TRY and the Washington Institute of Psychiatry programs for dropout students provided remedial basic academic training. The TRY study's most striking finding was that more than 12 percent of the trainees had the capability to handle college work. At the four-year level, project COPAN is notable in that significantly more COPAN than non-COPAN students survived in college as a result of the academic training provided.

The majority of the projects, however, appear to be directed to specific vocational skill training. The TRY project--one of the broadest training programs available at the time was found to be narrow.

Researchers recommended that future training programs for dropouts provide a diversity of vocational program opportunities equal to the diversity of the population they seek to serve. Little research was conducted on the relative merits of work experience programs, although in one major study students cited work experience as the most important thing vocational education could provide for them.

> Exemplary projects of Part D and FY 1974 projects show a direction to more relevant career guidance for minority students.

A few career education projects include ethnic paraprofessionals providing occupational information in the language of the home. Counseling techniques involve the family unit. Likewise, FY 1974 Part C projects include studying how occupational self-determination may be developed without abandoning cultural heritages.

> A negative self-concept was seen as the biggest block to motivation; use of peer counselors was found to raise self-image.

Although no research studies dealing with the subject were attempted, the negative self-concept of minority students was a major theme of training workshops. A low self-concept was seen as a major block to motivation. Self-concept has been identified by numerous career development theorists as an important determinant of motivation and performance. The most comprehensive of these theoretical approaches has been that of D. Super who believes self-concept to be the primary construct in

vocational development.[72/] One comprehensive project for innercity dropouts pointed to the complexity of the issues surrounding the motivational problem, finding that for the most part, lack of motivation came not from a lack of desire for achieving societal goals but from feelings of powerlessness in achieving these goals. At the postsecondary level, a relationship between the use of peer counseling and the growth of self-concept was noted.

It was in such peer counseling efforts that the largest amount of individualized instruction was found. Little study of methods for improving individualized instruction was found, although in one major assessment of minority needs at the secondary level, individual attention from teachers was cited by students as the most effective means of motivating them.

> Staff attitudes, expectations, and behaviors are critical variables in providing effective vocational training to minority students.

The majority of the activity stresses the critical importance of staff training, expectations, behavior, and attitudes in providing effective vocational training to minority students through all levels of the system, consistent with numerous other studies. For example, hypotheses formulated from a study of cultural and linguistic variables in manpower and vocational skill training programs found staff attitudes a greater obstacle to the learning process than trainee characteristics:

> Although it does not significantly interfere with a trainee's ability to learn, culture does function as a factor in various misunderstandings of minority trainees by instructors and other staff. Staff attitudes toward and perceptions of trainee characteristics are significantly greater obstacles to the learning process than are the characteristics themselves.[73]

Teacher expectations for student achievement were a frequently occurring theme. On occasion, the Rosenthal study was discussed.[74] This study has, of course, come under frequent attack on methodological grounds.[75] Given the stereotypic information that finds its way into teacher workshops and research descriptions, it is not surprising that teacher expectations for minority student achievement and ultimate occupational placement are frequently low. The literature dealing with teacher expectations is frought with ambiguity. One researcher, however, after studying the effects of teacher expectations on preschool children, made this prediction:

> The low-income children segregated as a caste of "unclean and intellectually inferior" persons may very well be those who in their adult years become the car washers, dishwashers, welfare recipients, and participants in numerous other un- or underemployed roles within this society. The question may quite honestly be asked, "Given the treatment of low-income children from the beginning of their kindergarten experience, for what class strata are they being prepared other than that of the lower class?[76]

As previously stated, no evidence can be found that vocational education researchers used classroom observation as an evaluative technique that might advance the knowledge regarding what happens in the autonomous domain of the vocational education classroom. In vocational education

as in other areas of education, there is the same pervasive lack of knowledge regarding the relationship of teacher behavior to pupil outcomes. As Rupert Evans describes it:

> The recruitment, development, maintenance, and replacement of vocational and technical teachers pose all of the problems associated with staffing general education programs. Undoubtedly, the most important difficulty is that no phase of education has a reliable criterion of teacher effectiveness. Lack of this criterion is a serious deterrent to evaluation of the effectiveness of programs for staffing vocational-technical education.[77/]

> No research on recruitment was conducted, but use of classroom paraprofessionals was a major theme of training activities.

Although vocational leaders such as Evans see recruitment of minorities into vocational teacher education as a priority need, no evidence can be located that research on this topic was conducted. Across all levels, however, using community-based paraprofessionals in vocational classrooms, was a frequently mentioned item on agendas of workshops and in research discussions. In fact, a few were used in demonstration projects and findings attest to their value. Additionally, there was frequent mention of the importance of bringing to the classroom, succesful ethnic role models. One study recommended their use on a one-to-one consultative basis with students.

> Little research for ethnic minorities had a focus of improving external linkages with business and industry.

Little of the activity identified focused on external linkages with business and industry although the usual rhetoric of bridging the gap

between education and work was found in the content of teacher training workshops.

> Few attempts were made to improve linkages with community groups, agencies, and lay citizenry.

A few recommendations were made in some of the research efforts that teachers spend time living in or near a ghetto community; beyond these, little effort was directed to studying effective means of linking with community groups.

One dropout study, however, did point to the essential nature of community, group-oriented action versus the fragmented and isolated approach of vocational education to meeting minority student needs. And the most comprehensive workshop held recommended collaboration and compromise between schools, business and industry, and community agencies as the most effective strategy for improving vocational education.

> There is an emerging direction to a bicultural emphasis in vocational education research activity for ethnic minority needs.

In the post VEA of 1968 period, primarily starting around 1972, some themes relating to biculturalism begin to be heard. Prior to that time, little mention was made of identifying cultural strengths and using these as the basis of curriculum development and teaching methods. Minnesota's bilingual project is perhaps the best example of this approach. Developed cooperatively with members of the Spanish-speaking community, the project

recognizes the learner's ethnicity as acceptable and noteworthy and believes "that the use of the learner's native language will help facilitate the learning process and avoid postponement of cognitive and psychomotor development."

Future Directions

According to some authorities, there is a current "fad of futurism" which makes prediction an unreliable tool. Nevertheless, discernible trends are pointing in some positive directions for the future of ethnic minority students.

Of the five USOE priorities for research in FY 1976, a principal one is educational personnel serving the disadvantaged. This focus seems consistent with the findings of this and numerous other studies that point to the critical nature of personnel development in vocational education. Specifically, the practices in various programs initiated under the Education Professions Development Act, e.g., Career Opportunities, Urban/Rural, Part F should be examined.

The most attention given to personnel development in vocational education is found under Part F of EPDA which created two programs in an attempt to revitalize the training of vocational education personnel. Yet, a study of these programs revealed that although significant inroads had been made into making personnel development more comprehensive, one of their chief weaknesses was the lack of minority group involvement. In

a statement made after five years of experience with the program, Part F administrators conclude that recruitment is the basic problem:

> Based on our observations and analyses, we believe that the basic problem is recruitment at all levels. We believe further that recruitment of racial and ethnic minorities can not be accomplished without parental and community involvement and that it requires a plan for affirmative action.78/

Recruitment was one of the needs for future research on ethnic minority needs most frequently mentioned by State respondents. Others included identification of cultural differences, training of administrators, and job-related studies such as follow-up and placement, and career aspirations. Several mentioned expansion of diagnostic procedures to identify unique learning styles.

Another trend stems from the concept of biculturalism. Although semantic confusion surrounds this model, it is perhaps best defined by Drs. Alfredo Castaneda and Manuel Ramirez. According to these authors, a philosophy of cultural democracy serves as the foundation for a new educational policy designed to help children of diverse backgrounds learn effectively. Bicultural identity includes the ability to function competently in two cultures and to view oneself as belonging to two cultures. The concept of bicognitive development has emerged from recent research on cognitive style; recent brain research suggests these two cognitive styles may be associated with cerebral

hemisphere specializations. Castaneda claims that public education in America reflects and reinforces one cognitive style over the other. Culturally democratic educational environments would enable children to develop both cognitive styles, to practice cognitive switching, and thereby be able to meet the diverse demands of life more effectively. Castaneda maintains that bicognitive development offers a fresh vantage point from which a long-standing issue can be viewed--the argument over whether the cognitive or affective domain should be given higher priority.[79/]

Casteneda's views are remarkably consistent with what leaders in other fields and disciplines are saying. Jonas Salk, for example, suggests that a large part of the difficulty of the human condition results from a disassociation between intellect and intuition. He claims a new and consciously attained system of balanced use of the brain's two aspects--the imaginative and the cognitive--are vitally necessary. Salk also speaks of the need to preserve the advantages of cultural diversity:

> There is increased understanding that the harmful effects of national selfishness must be reduced while at the same time the advantages of cultural distinctiveness and individual uniqueness are preserved.[80/]

Furthermore, according to Baratz and Baratz,

> As long as the social pathology and genetic models of Negro behavior remain the sole alternatives for theory construction and social action, our science and our society are doomed to the kind of cyclical (environment to genes) thinking presently evident in race relations research. Fortunately, at this critical point in our history, we do have a third model available, capable of explaining both the genetic and social pathology views with greater economy and capable of offering viable research and societal alternatives.[81/]

Toffler and other futurists predict increasing diversity of life styles as well as increased specialization in occupational roles.[82/] Such trends make even greater the need for interdisciplinary collaboration between vocational researchers and those in academic fields and disciplines.

According to Gordon, three revolutionary developments make it necessary for vocational education to move in the direction of general education goals. First, the explosion in knowledge and information makes distinctions between disciplines less clear; the relativity and interrelatedness of knowledge is more obvious. Second, technological increments will require more general and less specific skills. Third, shifts in the economic, political, and social balance of power all will demand high degrees of communicative skills, competence in transfer of knowledge and skills to new situations.[83/]

Future vocational education research targeted to minority needs,

then, should perhaps address the eight questions considered below.

(1) What are the best techniques for involving vocational researchers with relevant and ongoing research in other fields and disciplines that have implications for ethnic minority students?

The progress of a California project should be monitored. In a first-of-its-kind experiment, vocational education setaside funds are being combined with compensatory education funds to develop an integrated program in seven California secondary schools. Selection for these sites was based on two criteria: first, the school must have a comprehensive vocational education program; and second, it should be receiving at least $50,000 in State compensatory education funds. Planning for such an effort has been under way, and projects will start in the fall of 1975. Preliminary experience with the planning effort has indicated the difficulty in developing such a cooperative effort at both the State and local level.

Vocational researchers should also stay abreast of new directions in compensatory education being developed under NIE funding.

> University of Kansas--Century School Plan will develop an organizational framework response to its own community of children and their parents. The plan calls for an ungraded elementary school for 100 children ages 5-11. It hopes to create a model program which can eventually be implemented in school districts throughout the country. It also will develop instructional roles for parents and teacher aides operating through a system of self governance that depends on the informed participation of the schools children and parents.84/

Stanford Research Institute--The second is the adolescent model which will concentrate the attention of compensatory education programs on intermediate grades--on students approximately 12-15 years old. Although the emphasis is on basic academic skills, vocational concernes will be given consideration.85/

University of California at Los Angeles--A third model is UCLA's alternative design to develop a role change intervention model. In this approach, the focus is on secondary school students switching from a learner role to a teacher role. These students will report to local elementary schools for tutoring younger children on a 1-1 basis for at least part of their day.86/

Fanon Research and Development Center--This fourth approach will examine the parameters of a culture facilitation model which recognizes the need for harmonious working relationships between child, home, school, and community. A basic concern is to enhance the integrity of the child's culture and its uniqueness.87/

It may be that the development of these alternative approaches combined with the results of compensatory education assessments now being conducted will result in a synthesis of the most effective practices. A combination of some or all may provide guidelines by which to structure future vocational programs for minority students. Certainly, the major emphases of these new models are consistent with the philosophy and processes of a bicultural model.

(2) How can programs of articulation across all levels of education--elementary, secondary, postsecondary, and adult--best be developed?

Counselors, teachers, and administrators must communicate and interact to meet the needs of individual minority students as they move through

a fragmented and disjointed system. Of particular significance here is the counseling function. It is at the juncture between secondary and postsecondary education that a crucial problem for minority students appears. Equal access to higher education must be provided.

(3) How can vocational students at the secondary level be used to more effectively portray to elementary students the various skills needed in future occupations, with special attention to those skills which cut across many occupations?

Vocational education has overlooked the potential of older age tutoring throughout all levels of the system. The possibilities are there for using secondary students to tutor elementary, postsecondary to tutor secondary, and community retired adults brought into the schools to provide a valuable service in imparting their skills. Such tutoring appears especially congruent with Native American and Chicano cultural practices of age-graded tutoring.

(4) What are the most effective methods of changing teacher expectations for minority students and how do these relate to the development of self-concept in minority students?

Studying self-concept as a critical variable of concern will pose severe methodological problems since the state of the art in measurement of self-concept is primitive. Despite the expected difficulties, its importance to the interests of minority student needs necessitates that every attempt be made to analyze and draw upon the most recent work on self-concept currently being conducted at Stanford University and the University of California at Santa Barbara.[88/]

(5) How does the effectiveness of industrial teachers compare with that of public school vocational teachers in meeting minority needs?

Flanders claims that the greatest contributions to understanding how a teacher makes a difference may result from studies of teaching which are most unlike the public school conditions. As long as research on evaluating teacher effectiveness is restricted to studying representative samples of teachers in our public schools, the more valid conclusions will only be inferences about the status quo.[89/]

(6) How can the concepts of bicultural development be incorporated into the mainstream of vocational education?

Small beginnings of a more culturally pluralistic approach to meeting the needs of minority students are noted in recent vocational education research. Whether this continues is open to question, but it seems likely, given what appears to be an emerging trend in the larger educational system. Certainly, if vocational educators are to be responsive to the new demands of Part J of the 1974 Amendments, both the research conducted and the curricula developed must focus on bilingual materials and training of educators.

(7) How can classroom paraprofessionals be recruited to assist in providing job skills as well as a cultural link with the community?

The attention currently being given to public employment programs appears to be an optimal opportunity to recruit skilled or semiskilled

workers from disadvantaged communities as vocational education classroom assistants. Such an effort might serve the dual purpose of recruiting minority teachers in vocational education while at the same time providing a valuable cultural link between the classroom and the community. Harrison claims that our cities are faced with the twin problems of ghetto underemployment and a growing shortage of public services; each of these may carry the solution to the other.[90/]

(8) What methods are most effective in getting parents of ethnic minority students and relevant community agencies involved in planning and participating in vocational education programs?

The future will demand strengthening the ability of lay members of local communities to assist in solving the problems of vocational education. We need to identify the factors that appear to contribute to the successes of concepts such as the Urban/Rural program advanced. The main cue to the Urban/Rural program is community participation in educational decision-making. Reportedly, the districts have begun extensive programs for staff development. In the first two years of its operation, the program's emphasis was on assisting sites in establishing school community councils.[91/]

These are but a few of the relevant questions suggested by this study's findings. They do appear to be the most critical. We need to develop, however, deep appreciation of the complexity of the issues

involved and the gaps in our attendant knowledge concerning their resolution.

Concerned vocational education researchers search for consensus on the priorities for research targeted to minority student needs. This we may never achieve. In a comprehensive review of sociological theory and community-oriented research, Warren argues that what is needed is not consensus but rather a "creative confrontation" that places a high priority on emphasizing differences:

> This implies the need for neither consensus nor knock-down, drag-out conflict, but for a creative confrontation, a dynamic pluralism, if you will. To me, this seems to place a high priority not on glossing over differences, but quite the contrary, on emphasizing differences. It would imply a sense of discomfort not when people have not reached consensus, but when they have. 92/

The promising directions described above perhaps can only be achieved by an integrated effort that brings vocational education into the mainstream of social science research. Unless this happens, the separatism inherent in the fragmented educational system will continue to inhibit attempts to maximize the potential of ethnic minority students.

References

1. C. Jencks, Inequality, A Reassessment of the Effect of Family and Schooling in America, Basic Books, Inc., New York (1972).

2. W. Wilms, The Effectiveness of Public and Proprietary Occupational Training, Center for Research and Development in Higher Education, University of California, Berkeley (October 1974).

3. W. Grubb and M. Lazerson, "Vocational Education in American Schooling: Historical Perspectives," in Inequality in Education, No. 16, p. 8, Center for Law and Education, Harvard University (March 1974).

4. J. Dewey, "Some Dangers in the Present Movement for Industrial Education," Child Labor Bulletin, I, p. 70 (February 1913), quoted in A. Wirth, The Vocational-Liberal Studies Controversy Between John Dewey and Others, Washington University, St. Louis, Missouri (September 1970).

5. R. Evans and G. Brandon, "Research in Vocational Education," in Vocational Education, M. Barlow, ed., p. 269-270, National Society for the Study of Education, Chicago (1965).

6. United States Congress, Vocational Education Amendments of 196 Public Law 90-576, p. 15 (October 1968).

7. M. Barlow, "The Challenge to Vocational Education," in Vocational Education, M. Barlow, ed., p. 13, National Society for the Study of Education, Chicago (1965).

8. M. Kelley, The Culture of Poverty: An Exploration in Culture and Personality, Center for Occupational Education, North Carolina State University at Raleigh, p. 34 (1971).

9. See, for example, W. Hunter, Multicultural Education Through Competency-Based Teacher Education, American Association of Colleges for Teacher Education, Washington, D.C. (1972); M. Stent et al, Cultural Pluralism in Education: A Mandate for Change, Appleton-Century-Crofts, New York (1973); A. Bantajo et al, Badges and Indices of Slavery: Cultural Pluralism Redefined, Study Commission on Undergraduate Education and the Education of Teachers, Lincoln, Nebraska (1975).

10. R. Callahan, Education and the Cult of Efficiency, University of Chicago Press, Chicago, Illinois (1962).

11. Assessment of Ethnic Minority Student Needs in Vocational Education, Volume I: Executive Summary, p. 2, Contemporary Research Inc., Los Angeles, California (October 1974).

12. A. Lee, "A Philosophy of Relationships for State Research and Development," in Reports of a National Vocational Education Leadership Development Seminar, p. 33, Center for Research and Leadership Development in Vocational and Technical Education, Ohio State University, Columbus, Ohio (May 1975).

13. E. Rogers, "Diffusing Educational Innovations," in Report of a National Vocational Education Leadership Development Seminar, pp. 87-100, Center for Research and Leadership Development in Vocational and Technical Education, Ohio State University (May 1965).

14. Comments in Reports of a National Vocational Education Leadership Development Seminar, p. 45, Center for Research and Leaderhship Development in Vocational and Technical Education, Ohio State University, Columbus, Ohio (May 1975).

15. Ibid, p. 107.

16. Comments in National Vocational-Technical Education Seminar on the Development and Coordination of Research by State Research Coordinating Units, p. 8, The Center for Research and Development in Vocational and Technical Education, Ohio State University (February 1966). ED 011-042

17. Ibid, p. 57.

18. N. Osso, Characteristics of Students and Staff, 1972, p. 38, Office of Education, National Center for Educational Statistics, Washington, D.C. (1973).

19. Comments in Vocational Education Leadership Training Institute, R. Worthington and C. Buzzell, eds., p. 232, New Jersey State Department of Education, Trenton, New Jersey (June 1970).

20. W. Crockett, Effects of Age, Social Status, Sex, and Race Upon the Understanding of Word Meanings Independent of Sentence Context, Clark University, Worcester, Massachusetts (November 1966). ED 010-381.

21. An Evaluation of Vocational Exemplary Projects, p. 153, Development Associates, Inc., Washington, D.C. (march 1975).

22. R. Gonzales, Tri-Cultural Vocational Exploratory Career and Work Experience Education Program, Bernalillo Municipal Schools, Bernalillo, New Mexico (abstract), project duration 1971-1974.

23. Developing Career Awareness for Spanish-Surnamed Children, Central Texas College (abstract), project duration 1972-1973.

24. R. Grinder, A Study of the Influence of Father's Job and Social Status on the Occupational and Social Goals of Youth, Wisconsin University, Madison, Wisconsin (August 1967) ED 016-849.

25. R. Campbell, Vocational Development of Disadvantaged Junior High School Students (August 1969) ED 032-427.

26. T. Sweeney, A Developmental Program for Vocational Counselors Directed Toward Serving Disadvantaged Youth More Effectively, University of South Carolina, Columbia, South Carolina (1966) ED 010-074.

27. P. Hodgson and R. Laws, A Teacher Institute to Prepare Teachers and Materials for the Education of Rural, Low Achieving Disadvantaged Junior High School Students for Entry into Vocational Technical Programs, Delaware State Department of Education, Dover, Delaware (1965) ED 003-095.

28. Development Associates, Inc., op. cit., p. 153.

29. Business Ownership Curriculum for Pre-Vocational and Exploratory Levels, National Business Education Association (abstract) project duration 1972-1974.

30. A. Miller, Research Priorities in Technical Teacher Education, A Planning Model, p. 27, Center for Vocational and Technical Education, Ohio State University, Columbus, Ohio (1967) ED 016-817.

31. R. Evans, "A Challenge for Action," in National Teacher Seminar, p. 28, Center for Vocational and Technical Education, Ohio State University, Columbus, Ohio (1968) ED 027-424.

32. Comments in National Teacher Seminar, p. 61, Center for Vocational and Technical Education, Ohio State University, Columbus, Ohio (1968) ED 027-424.

33. R. Boss, What School Administrators Should Know about Vocational Education for Disadvantaged Youth in Urban Areas, p. 23, Center for Vocational and Technical Education, Ohio State University, Columbus Ohio (July 1971) ED 059-350.

34. R. Rosenthal and L. Jacobsen, Pygmalion in the Classroom: Teacher Expectations and Pupils' Intellectual Development, Holt, Rinehart and Winston, New York, New York (1968).

35. R. Schultheis and A. Vaughn, Changing Undergraduate Business Teacher Education Programs to Prepare Teachers for Culturally Different Youth, Department of Business Education, Temple University, Philadelphia, Pennsylvania and Center for Vocational and Technical Education, Ohio State University, Columbus, Ohio (1968).

36. E. Popham, Inservice Business Teacher Programs Leading to a Better Understanding of Students with Special Needs, Hunter College of the City University of New York and Center for Vocational and Technical Education, Ohio State University, Columbus, Ohio (1968).

37. W. Kennedy, A Follow-up Normative Study of Negro Intelligence and Achievement, Florida State University, Tallahassee, Florida (1965).

38. Guidance Programs and Their Impact on Students: A Search for Relationships between Aspects of Guidance and Selected Personal-Social Variables, Minnesota State Department of Education, St. Paul, Minnesota (1968) ED 023-141.

39. D. Bushnell, Production and Validation of Educational Systems Packages for Occupational Training of Depressed Area Students, Brooks Foundation, Santa Barbara, California (1966).

40. M. McMillion, A Study in Communication Between High School Teachers of Vocational Agriculture and Socio-Economically Disadvantaged Youth by the Use of the Semantic Differential, University of Illinois, Urbana, Illinois (1967).

41. Development Associates, Inc., op. cit., p. 154.

42. H. DePetro, Operation Bridge--Innovative Comprehensive Vocational Education Program for Disadvantaged Youth, Aims Junior College District, Greeley, Colorado (abstract, 1973).

43. Assessment of Ethnic Minority Student Needs in Vocational Education, Volumes I, II, and III, Contemporary Research Incorporated, Los Angeles, California (October 1974).

44. S. Schulman, et al, Mexican American Youth and Vocational Education in Texas: Summary and Recommendations, Center for Human Resources, University of Houston, Houston, Texas (February 1973). See also Occupational Education in Texas: An Ethnic Comparison, Black Youth and Occupational Education in Texas (June 1974), Manpower and Vocational Education in Texas (Summer 1974), A Demographic Profile of Texas and Selected Cities (Summer 1974), and Occupational Education in Texas: Summary and Conclusions.

45. D. Towne and C. Lee, Many Voices Speak, Northwest Regional Educational Laboratory on behalf of the Northwest Indian Council on Education, Portland, Oregon (May 1973).

46. H. Handley, Assessment of the Influence of Special Vocational Programs on the Attitudes of Rural Disadvantaged Adolescents, Mississippi State University, State College, Mississippi (abstract), project duration June 1974-December 1975.

47. E. Edington, The Educational and Occupational Aspirations-Rural and Minority Youth in New Mexico, New Mexico State University, Las Cruces, New Mexico (abstract), project duration June 1974-December 1975.

48. L. Sikorski, Targeting Information to Market Segments: An Action Oriented Study of Attitudes Toward Vocational Education Among Target Populations, Far West Laboratory, San Francisco, California (abstract), project duration June 1974-December 1975.

49. K. Patterson, Career Guidance Orientation Research Project, Parker, Arizona (abstract), project duration June 1974-December 1975.

50. An Assessment of Ethnic Minority Students in Vocational Education, Homitz, Allen and Associates, Oakland, California (abstract), project duration June 1974-July 1975.

51. P. Sharar, The TRY Project: A Demonstration of a Comprehensive Educational Model for Disadvantaged Youth, pp. 5-24, Training Resources for Youth, Inc., Brooklyn, New York (1969) ED 029-985.

52. C. Jeffrey, Development of a Program to Prepare Delinquents, Disadvantaged Youths and Slow Learners for Vocational Education, Washington School of Psychiatry, Washington, D.C. (1967).

53. G. Gurin, Inner-City Negro Youth in a Job Training Project: A Study of Factors Related to Attrition and Job Success, p. 120, Survey Research Center, University of Michigan, Ann Arbor, Michigan (1968) ED 026-530.

54. Sandhills Community College, Occupational Education Salvage: The Identification, Location, and Personal Guidance of Disadvantaged Students in Moore and Hoke Counties, North Carolina State Department of Public Instruction, Raleigh, North Carolina (1972).

55. M. Stillerman and M. Lowens, Operation Giantstep, Research in a New Remedial Program and Community College Industrial Technology Curriculum for Disadvantaged High School Graduates, Bronx Community College, New York, New York (1968) ED 012-830.

56. Identification and Accomodation of Disadvantaged and Handicapped Students in Virginia Community Colleges, Educational Research Services, Inc., White Plains, New York (1971).

57. M. Sakmar, Learning Resources for the Disadvantaged Student, Virginia Department of Community Colleges, Richmond, Virginia (July 1973).

58. Minnesota Bilingual Vocational Training Project, Minnesota Department of Education, Division of Vocational Education, St. Paul, Minnesota (1975).

59. Summer Writing Conference to Continue Development of Materials in Expression of Ideas (English) and Quantitative Thinking (Mathematics) to be Used in Pre-College Centers for Students from Low-Income Families, Educational Services, Inc., Newton, Massachusetts (1967).

60. L. Salisbury, College Orientation Program for Alaskian Natives (COPAN), University of Alaska, College, Alaska (1968).

61. M. Halvorsen, An Analysis and Interpretation of Data on the Social Characteristics of Residents of Vine City, Spelman College, Atlanta, Georgia (1967) ED 015-225.

62. D. Brown and A. Newman, A Literacy Program for Adult City Core Illiterates: An Investigation of Experimental Factors (1968) ED 026-619.

63. J. Kopas, A Curriculum Development Study of the Effectiveness of Upgrading the Technical Skills of Educationally Disadvantaged Union Members, Negro American Labor Counsil, Cleveland, Ohio (1966) ED 010-430.

64. A. Jacoby, Development of a Film on Homemaker Services for Interpretation to the Public and Training Professional and Non-Professional Personnel, Mental Health Film Board Inc., New York, New York (1967) ED 016-074.

65. H. Mendelsohn, Operation Gap-Stop: A Study of the Application of Communication Techniques in Reaching the Unreachable Poor, Denver University, Denver, Colorado (1968) ED 024-788.

66. Education and Manpower Strategies and Programs for Deprived Urban Neighborhoods: The Model Cities Approach, National League of Cities, Washington, D.C. (1968) ED 025-629.

67. Development, Demonstration and Evaluation of Management Training Programs for Small Businesses, Including Minorities, University of Minnesota, St. Paul, Minnesota (duration of project 1972-1975).

68. G. Nimnicht and J. Johnson, Beyond "Compensatory Education," A New Approach to Educating Children, pp. 3-4, Far West Laboratory for Educational Research and Development, San Francisco, California (1973).

69. L. Rainwater, Behind Ghetto Walls, Aldine, Chicago, Illinois (1970).

70. R. Farson, Journal of Social Issues, article and publishing date unknown.

71. Quoted in A. Stein, "Strategies for Failure," in Challenging the Myths: The Schools, The Blacks, The Poor, Reprint Series No. 5, p. 160, Harvard Educational Review, Cambridge, Massachusetts (1971).

72. E. Herr, Review and Synthesis of Foundations for Career Education, The Center for Vocational and Technical Education, Ohio State University, Columbus, Ohio (March 1972).

73. An Assessment of Cultural and Linguistic Variables in Manpower and Vocational Skill Training, Olympus Research Corporation, Salt Lake City, Utah (July 1973).

74. Rosenthal, op. cit.

75. J. Elashoff and R. Snow, A Case Study in Statistical Inference: Reconsideration of the Rosenthal-Jacobson Data on Teacher Expectancy, Stanford University, School of Education, Stanford , California (1970).

76. R. Rist, "Student Social Class and Teacher Expectations," in Challenging the Myths: The Schools, The Blacks, The Poor, Reprint Series No. 5, p. 107, Harvard Educational Review, Cambridge, Massachusetts (1971).

77. R. Evans, "Staffing Vocational-Technical Programs," in Vocational Education: Today and Tomorrow, G. Somers and J. Little, eds., p. 201, Center for Studies in Vocational and Technical Education, the University of Wisconsin, Madison, Wisconsin (1971).

78. M. Tapman and F. Perrazoli, The Underrepresentation of Racial and Ethnic Minorities in Vocational Personnel Development, Material for the Oversight Hearings, U.S. Office of Education, Washington, D.C. (30 April 1974).

79. M. Ramirez III and A. Castaneda, Cultural Democracy, Bicognitive Development and Education, Academic Press, New York, New York (1974).

80. J. Salk, The Survival of the Wisest, Harper and Row, New York, New York (1973).

81. S. Baratz and J. Baratz, "Early Childhood Intervention," in Challenging the Myths: The Schools, The Blacks, The Poor, Reprint Series No. 5, p. 128, Harvard Educational Review, Cambridge, Massachusetts (1971).

82. A. Toffler, Future Shock, Random House, New York, New York (1972).

83. E. Gordon, "Vocational-Technical Education for the Disadvantaged," National Teacher Seminar, pp. 93-94, Center for Vocational and Technical Education, Ohio State University, Columbus, Ohio (1968) ED 027-424.

84. D. Bushell, Jr., Compensatory Education Study: A Design for an Alternative to Compensatory Education, University of Kansas, Lawrence Kansas (abstract 1975).

85. M. Larson, Alternative Designs to Contrast with Current Practices in Compensatory Education, Stanford Research Institute, Menlo Park, California (24 May 1975).

86. H. Silberman and C. Fitz-Gibbons, The Role Change Intervention: An Alternative Design to Contrast with Current Practice in Compensatory Education, Center for the Study of Evaluation, University of California at Los Angeles, Graduate School of Education, Los Angeles, California (abstract, May 1975).

87. A Proposal for Alternative Designs to Contrast with Current Practices in Compensatory Education, Famon Research and Development Center, Charles R. Drew Postgraduate Medical School, Martin Luther King, Jr. General Hospital, Los Angeles, California (abstract, 1975).

88. Personal communication with Dr. Robert Hess, Stanford University, Stanford, California and Dr. George Brown, University of California at Santa Barbara, Santa Barbara, California (May 1975).

89. N. Flanders, "A National Coordinated Program of Research on Teaching Effectiveness," in How Teachers Make a Difference, p. 109. U.S. Government Printing Office, Washington, D.C. (1971).

90. B. Harrison, Education, Training, and the Urban Ghetto, John Hopkins University Press, Baltimore, Maryland (1972).

91. J. Terry and R. Hess, The Urban/Rural School Development Program: An Examination of a Federal Model for Achieving Parity Between Schools and Communities, Stanford University, School of Education, Stanford, California (January 1975).

92. R. Warren, Truth, Love, and Social Change, p. 291, Rand McNally and Company, Chicago, Illinois (1973).