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Dec. 15, 1980
To: Committee on Educational Professions
From: Jean Stockard

Attached is a very short paper that I threw together last spring summrizing material on inequality and education related to race, class, sex, handicaps, and region. My basic purpose in this short piece was to summarize the various types of inequalities and how they related to each other and to each of the various target groups. I also briefly mention various relevant policies. This material should at least give you an idea of some of the areas in which I've thought and read.
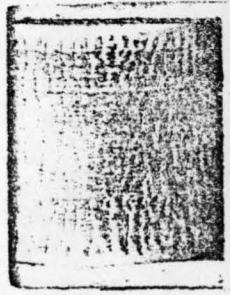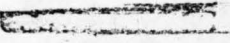
Below I describe four areas of possible research that may fit into CEPM's research paradigm. The first two deal with the general relationship between professionals' satisfaction with their work lives and student achievement with specific examples relating to the area of equity for professionals. The second two areas of work focus on influences on student achievement with special emphasis on equitable achievement of students in various status (class, race, sex, handicap) groups. Within these areas I describe possible descriptive, correlational, and, at times, more experimental, studies,

In describing these possible areas of research it is necessary to expand on the nature of certain variables within the research paradigm. I have taken the general variable of "language frameworks" to mean not only the terms by which educators describe the world in which they work but also the values that they bring to their work and especially the priorities they give to these values. For instance, the relative value that educators place on providing services to various groups may well have an effect on the quality of services that these groups receive, independently of policies and directives countering or supporting these values. Building on insights of social psychologists it may also be important to differentiate between incentives and resources that educators _perceive_ to exist and those that _actually_ exist. It may also be important to differentiate between educators' definitions of ideal resources and incentives and their perceptions of the actual nature of resources and incentives in their schools or district. The perceived, ideal, and actual (both perceived and independently measured) resources and incentives as well as the gaps between them may be used as variables.

In the discussion below I have assumed that the proximal input of teacher behaviors and qualities includes characteristics such as teachers' satisfaction with their work situation. This variable is ~~distinct from the values that teachers bring to the work situation.~~

distinct from the values that teachers bring to the work situation in that satisfaction reflects reactions to incentives, resources, and day-to-day work conditions. I assume that this satisfaction and general morale of teachers may be related to instructional effectiveness and thus to student achievement.

Finally, the model as it now stands has arrows pointing in one direction only. Probably for the sake of simplicity it has been assumed that the environmental variables affect the policy and management variables which then affect the criterion variables or distal inputs which then affect the mediating variables or more proximal inputs which eventually affect students' achievement or learning. This progression certainly has a logical order that should be retained. However, feedback loops may occur within the model, especially between the mediating, criterion, and policy and management variables. For instance, inservice training, a criterion variable or distal input, may alter the language frameworks and values of educational professionals, which will then help lead to changes in the moreproximal inputs of planning for instruction and actual teaching methods. Or, instead of incentives such as federal regulations guiding decisions about resource alloccations, one may well see resource allocation decisions serving as incentives so that if certain programs receive the promise of greater allocations educators in those programs may be spurred to greater activity and higher success.

Opportunities for Professional Advancement

Although in comparison to many work areas the education profession has a relatively flat hierarchy, there are different positions within the profession that are associated with differences in pay and prestige. Most notable is the distinction between administrators and teachers, many of whom have approximately equal advanced training, but between whom there are sharp differences in control over their work life and in pay. A fair amount of research has documented inequalities in access to administrative positions that are related to status variables of race and sex.

One aspect of research in this area that is needed is a careful, representative study of how educators themselves perceive the opportunities for advancement within the field and the existence of inequities. Such a descriptive study should examine both the views of educational professionals as a whole, as well as a breakdown of these views by race and sex groups and by those holding different positions in the profession.

Greater study of the nature of advancement within the profession is also needed, especially the interaction between race and sex. Such studies should especially describe how the combinations of these status variables affect decisions about the deployment of professionals within education. Such studies could also examine the effectiveness of recent policy decisions that call for equity within the profession.

Finally, it would be important to determine how employees' perceptions of equality and inequality within the profession affect their satisfaction with their work life and their effectiveness as instructors. It would be important to include as independent variables not just the reality of equal opportunity, but also perceptions of equality and the importance that the educators place on such equality (the value attached to it).

Professionals' Control Over their Work Life

Opportunities for advancement are probably one of several variables that contribute to teachers' satisfaction with their work. Another element of teachers' satisfaction with their work may involve a feeling of control over the educational decisions that affect their students. In studies similar to those suggested above it could be important to examine educators' perceptions of the amount of control they believe that they have over various aspects of the educative process (including areas such as selection of curriculum materials, instructional methods, discipline, development of new policies, and even hiring of staff members, budget development, and budget expenditures), how important it is to them that they have such control (again the area of values); and the actual amount of influence that the teachers have. These measures of perceived, desired, and actual control and the differences between them could then be used as independent variables in examining teacher morale and effectiveness of instruction.

The studies suggested in this section and the previous one would enhance the research literature and also have policy implications.

If teachers' satisfaction and morale are related to their effectiveness, then the results of these studies could point toward methods of changing teachers' work situation (the distal inputs in the model) to increase students' achievement.

While the descriptions of the above projects have been phrased in terms of occupational advancement and control over work life, they may well fit into a larger project designed to investigate the sources of teacher stress and its effects on teacher effectiveness. Much of the descriptive work described above may well be found in already completed work including doctoral dissertations. Thus, an initial step in attacking these issues could be a thorough search and analysis of the literature.

The Education Profession and Inequities in Student Achievement

Student achievement is the ultimate concern of CEPM's scope of work. This implies a concern with inequities between students, especially those related to "status" variables of race, social class, sex, and handicap. Because educators are ultimately responsible for diminishing these inequities in academic achievement it is important to examine their views of inequalities among students and why they occur . It is also important to study if variations in educators' commitment to eliminating inequities is related to the success of instructional programs.

In such an examination it could be important to determine if educators perceive that inequities based on class, race, sex, or handicap exist for students. Variations in these perceptions among teachers with

different backgrounds (e.g. by training, race, and sex) and with different current positions (e.g. special ed teacher, classroom teacher) in the profession could also be examined. It would be important to look at why the educators believe certain problems occur and compare their perceptions with those of the general public and views in the research literature.

Besides looking at perceptions of inequity it could be important to investigate educators' perceptions of what equity involves or what an equitable system of schooling would entail (e.g. equal opportunity for all students to learn, by exposing all students to the same material; giving some students extra help so that they can approach the level of others; equalizing learning outcomes of all students; helping all students to achieve their potential; helping all students to achieve to some minimal level, etc.). Educators' views of equity imply certain values and value priorities. Perceptions about the priorities that should be given to members of various status groups could be examined both in terms of ideal situations of unlimited resources to allocate and the more realistic situations of limited resources.

Besides such descriptive studies it is possible to examine both what affects the value priorities that educators develop once they enter education and how these value priorities affect the implementation of policies. For instance, it may well be possible that certain means of implementing new policies (through such distal inputs as inservice training or provision of support services) can help change the values and the prioirties of these

values (the "language framework") that educators have for various services
It may also be possible that variations in community support for programs
can influence the development of certain value positions. The area of
mainstreaming handicapped students or of special services to the economically
disadvantaged would be excellent topics for such research.

The priorities educators place on various services and the value they
attach to certain elements of their work may also influence the dedication
with which they approach certain programs and thus their effectiveness.
It could be important to examine the direct impact of educators' support
of certain activities (such as the mainstreaming of handicapped
children) on the success of these activities relative to other influences
including political pressures from community members and legal requirement
from outside the community. Studies in this area would help develop ways
to effectively implement policy decisions when there were disagreements
over the worth of the program and ways in which equity can be encouraged.

School Effects on Equity in Students' Achievement

In this area I believe that there are needs for general descriptive
or exploratory work as well as for more detailed examinations of specific
areas. First, because an examination of equity within schools and
classrooms is different than an examination of achievement within
schools and classrooms, I believe that there is a need to work on
developing good conceptual and operational measures of equity at the
aggregated level. To briefly explain the nature of this problem,
studies of school effects are generally interested in finding variables
that maximize the average achievement of all students within the

classroom or school. In studies of equity one would be interested in finding variables that would decrease the race, class, sex differentials in acsdemic achievement. This could take the form of minimizing variance or perhaps maximizing achievement for each category of the various status groups or some other measure. Whatever measure is used there may be practical, political or philosophical issues involved (e.g. does raising the achievement of one group imply the lowering of achievement of another?). These problems need to be explored. In addition, there needs to be some assessment of how much between school and between classroom variation there actually is in these measures of equity. Are racial groups and the sex groups closer in achievement scores in some settings than in others? Do the members of each social class group score more closely in some classrooms or schools than in others? What kinds of proximal or distal inputs are related to these differences?

A second area of potential research is much more specific. If the variable of incentives in the paradigm is seen as including incentives for students' performance as well as those for teachers it may be possible to explore how different forms of incentives enhance the achievement of males and females and of members of different cultural groups. This work could develop on the broad range of workin achievement motivation that notes that males and females as well as people of varying cultural backgrounds respond differently to competitive and cooperative incentives (and variations related to this dimension). Studies could investigate how varying classroom incentives for achievement along this dimension could mϕnimize achievement variations between these groups and potentially increase achievement in areas in which they traditionally lag.

A third area of potential research is also very specific, but relates

to the general area of deployment of resources, in this case teaching

personnel, teaching behaviors, and sex differences in math achievement.

A pet hypothesis of mine (which is somewhat too complex to explain fully

right now) is that sex differences in mathematics achievement could be

lessened if girls were taught mathematics in a manner that did not

require high spatial-visual ability. Part of the basis for this work

comes from a study now almost 30 years old that found that girls had

higher achievement scores in algebra when taught by women and that boys

had higher achievement scores when taught by men, even though girls had

higher grades in all the classes. I suspect that the women teachers might

have presented the material in ways that those with lower spatial-visual

ability (who tend to be female) were more likely to understand while

the men teachers were more likely to present the material in ways

that those with high spatial visual ability would understand. The

proposed work would have two stages: 1) a study to examine the relationship

of the sex of teacher to mathematics achievement (virtually all work

on the sex of teacher involves reading achievement and shows that ~~it~~ no relationship

does~~ not help~~ to boys' scores) and 2) if this study led to promising

results an examination of differences in teaching styles between

classes with varying patterns of sex differences in achievement;

and finally 3) attempts to develop curriculum materials that could

utilize the successful techniques to maximize both m ales and females

mathematics achievement.