INTEGRATING SOCIAL VALUES AND SCIENTIFIC VALUES: A DEVELOPMENTAL CONFLICT FOR EDUCATIONAL RESEARCHERS

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The impetus for this paper was an assertion that educational research, because of its emphasis on the scientific method, contributes to the dehumanization of the educational process. Implicit within this assertion are two assumptions. One seems to be that scientists are interested only in objective analyses based on observable data; that more private human experiences stemming from feelings and emotions, not being capable of direct observation, are rejected as unsuitable concepts for scientific investigation. Also underlying this assertion is the perception that science reduces man to an object or machine in view of the deterministic assumptions required for purposes of inquiry. This perception receives reinforcement from within the scientific community itself as epitomized by the brand of science advanced by B. F. Skinner who pointedly states:

> Machines have become more lifelike, and living organisms have been found to be more like machines. Contemporary machines are not only more complex, they are deliberately designed to operate in ways which resemble human behavior. "Almost human" contrivances are a common part of our daily experience. . . . Man has, in short, created the machine in his own image. And, as a result, the living organism has lost some of its uniqueness. (Skinner, 1953, p. 46).

One consequence of this perception is a resistance on the part of scientists who tend to feel that their goals and methods are badly misunderstood. In order to pursue this issue to determine whether educational researchers are in fact "good guys" or "bad guys", several related issues need to be carefully raised in order to arbitrate the antagonism between society's moral conscience and the scientific community.

First of all, we need to consider what the prevalence of dehumanization is in education. And secondly, what do we mean by dehumanization or humanization for that matter? Since discussion of the first issue will depend upon the criteria chosen for defining dehumanization, the most logical point of departure would be to specify what is meant by a humanistic orientation.

Soul Searching for Humanism

Attempting to define a philosophic position in precise terms turns out to be a highly self-conscious task for two individuals with firm committments to the scientific mode of inquiry since it requires uttering public statements which could easily be construed as being overly general, utopian, pious, and unduly sentimental. It is difficult, to say the least, since it requires us to make assertions about ideals to be sought. In many respects, this activity takes away the secure supports one finds in referring to previous research findings, well accepted research methods, or a theoretical framework for guidance in thought and for derivation of "testable" hypotheses.

Interestingly enough, the most meaningful statements to us seem to be made not by scholars in the philosophical disciplines but by the more scientifically oriented writers in political science and clinical psychology. With grateful acknowledgement to these and other writers (Presthus, 1962; Shoben, 1966; Sanford, 1966) for their contributions in assisting us in our thought, we define the fundamental attributes of what we call a humanistic-democratic orientation to include beliefs in: (1) the intrinsic worth of individuals as ends in themselves; (2) the right for each individual to have the opportunity for developing his potentialities as fully as possible; (3) the development of personal autonomy which is derivable from our historical belief in freedom of choice; (4) freedom of expression as a constructive social device, since criticism and dissent are the beginning phase of creativeness and the recognition of the need for new solutions and change.

If these beliefs are acceptable and relevant to our democratic way of life, and if the humanistic orientation derived therefrom is viewed as being consistent with the democratic ideology, then we have suitable criteria for determining whether or not our educational practices and educational research are guilty as charged.

Dominant Social Values

Although the data considered are based on theoretical and historical interpretations, it seems evident that impersonality, i.e., dehumanization, is indeed a prevalent condition in our schools and colleges especially as size becomes increasingly large. That our schools are increasing in size and will continue to enlarge is evidenced not only by tremendous growth in our national population but also by the concentration of this population in highly congested urban areas. Moreover, it is increasingly evident that our rapidly increasing population, now exceeding 200 million,

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must also be more highly trained than ever before. Drucker
makes the point more strongly when he states:

> The essential fact is that a developed society and
> economy are less than fully effective if anyone is ed-
> ucated to less than the limit of his potential. The
> uneducated (man) is fast becoming an economic liability
> and unproductive. Society must be an 'educated society'
> today--to progress, to grow, even to survive. (Drucker,
> 1959, p. 114).

Thus our schools have been and continue to face two major
tasks: that of accepting larger and larger bodies of stu-
dents, and then preparing them for specialized roles in a
rapidly expanding, highly technological society.

The fact of an increasing population, which must be
trained in technical ways, does not lead to impersonality
per se. Other factors must come into play and they do. In
his historical study, Education and the Cult of Efficiency,
Callahan sets forth the thesis that educational procedures
in our schools have been greatly influenced by business
values and practices which have become dominant in our cul-
ture. The influence of these values has been two-fold in
terms of what is being taught and how the schools have been
organized to accomplish this task. In Callahan's words,

> . . . when all of the strands of the story are woven
> together, it is clear that the essence of the (problem)
> was in adopting values and practices indiscriminately
> and applying them with little or no consideration of
> educational values or purposes. It was not that some
> of the ideas from the business world might not have
> been used to advantage in educational administration,
> but that the wholesale adoption of the basic values, as
> well as the techniques of the business-industrial world,
> was a serious mistake in an institution whose primary
> purpose was the education of children . . . (for) the
> record shows that the emphasis was not at all on "pro-
> ducing the finest product" (at the lowest cost) but on
> the "lowest cost". In all of the efforts which were
> made to demonstrate efficiency, it was not evidence of
> the excellence of the "product" which was presented,
> but data on per-pupil costs. This was so partly be-
> cause of the difficulty of judging excellence but mostly
> because when school boards (and the American people
> generally) demanded efficiency they meant "lower costs."
> (Callahan, 1962, p. 244).

In a further elaboration on this same theme Prethus
(1962) discusses the functional requirements of a bureau-
cratic type organization, which large social institutions

must become if they are to maintain their efficiency and ultimate survival. In his analysis of large organizations he asserts that they are formed to increase efficiency and productivity. This is most evident in business and industry with large corporations such as General Motors being the prototype. In order for large scale organizations, whether they are manufacturing concerns, urban high schools, or state universities, maintenance of efficiency requires a narrow definition of goals, specialization of skills, and centralization of decision-making. However, centralization of authority tends to make social relationships more impersonal. Persons who make the decisions may be out of touch with the individuals who are affected by the decisions, and conversely, those affected by them have little or no participation in the decision-making process. In addition, specialization in the form of units or departments also limits social access with individuals outside the unit of specialization. Individual behavior must conform to fairly rigid specifications since nonconformance to them threatens the efficiency of the operation. Individual needs become subordinated to the needs of the organization since the organization's survival depends on smoothness of functioning. How social organization leads to dehumanization becomes more clear by considering an example given by Lloyd Warner et al. (1963) in their penetrating analysis of Yankee City. Although the journeyman shoemaker had been a needed member of the community, his position was eliminated by the advent of industrialization of his trade. Where he originally enjoyed personal contact with his customers and recieved wages in the form of materials for his trade as well as room and board, the ingredients of mechanization and specialization forced the shoemaker to take a job on the assembly line in a newly created shoe factory. This ultimately deprived him of the satisfaction from creating and completing a product with which he alone could be identified. In short, he became a means to an end rather than an end unto himself.

Thus far we have been able to document only the effect of the dominant social values of efficiency and of the functional requirements of maintaining efficiency. We conclude that perpetuating these values has been carried out at the cost of limiting the range of goals, forcing human relationships into non-human, routine patterns, severely restricting personal autonomy, and consequently reducing man's status to a purely instrumental or "means" relationship with the system. It remains for us to translate these characteristics of large social organizations and their relationship to dehumanization into educational terms.

A Functional Analysis of the
Educational Process

We have chosen to approach this matter by posing our statements in the context of each of the criteria that were set forth in defining the humanistic-democratic orientation in an earlier part of this paper. Our first question then is to ask how or whether the intrinsic worth of the individual has been undermined? In doing so we will select some observations about certain educational practices.

Census data show that more students are being enrolled in all levels of education than ever before. This fact results in schools of large size and large teacher-pupil instructional loads. (The reader is referred to NEA Research Bulletins 1962 a, 1962 b, 1967, for a detailed treatment of class size and teacher loads.) In a typical secondary school in systems enrolling 25,000 or more pupils, with a median class size of 28-30, multiplied by a teaching load of 4 to 5 classes per day, the teacher becomes responsible for working with and for knowing from 120-150 students per term. The amount of time that can be devoted to individuals becomes increasingly small. Moreover, increases in size also create logistic's problems with regard to instruction, evaluation, and record keeping. As a result it becomes increasingly necessary to resort to mechanical means, such as data processing techniques, to record the progress of students through the institution. Thus the lack of social intimacy with teachers and personal involvement in the learning process reflects an attitude of disregard for the individual. In viewing this state of affairs, we argue that students are hastened through their program of studies without careful consideration for their individual needs and personal aspirations. In essence, education fails to recognize the personal worth of students who become sacrificed for efficiency of operation which is required to meet the continuous, large influx of the student population. In a very recent student newspaper editorial, as reported in the Tallahassee Democrat (Nov. 16, 1967), 100 freshmen students protested the depersonalization and unsatisfactory learning atmosphere of an introductory psychology class of 1200 students. If this were only one class in one university experiencing this, a complaint might be little justified. It turns out, however, that most American college students are found in large institutions such as this school, and that research suggests that personal anonymity is more prevalent where such arrangements exist. (Newcomb, 1966, p. 114).

Impersonality in education as the devaluation of the individual however, need not be restricted to large institutions or large classes. Impersonality can be detected in small group settings also. A not too rare

occurrence in the past was the elementary class being taught with each student reading on the same page, the same word, at the same time. Even today we find many instances of small graduate seminar groups being dominated by the authoritative teacher at the expense of the student's development of autonomy and self-direction. Thus, authoritarian attitudes and behavior which are still prevalent at all levels of education (Brookover et al., 1964, pp. 407-411) add to the impersonalization of the educational process.

In following our line of thought we now refer to the second and third criteria of the humanistic-democratic orientation, the matter of the right for each individual to realize his fullest potentialities which in turn depends on the availability of choices and freedom to choose. To an extent there is a relationship of the previous discussion with the one which follows.

For purposes of efficiency, instruction in higher education and secondary schools has been specialized in the form of departments. Even at the elementary school level we are beginning to see departmentalized instruction in the subject matter areas: another application of specialization. Moreover, discipline and other types of social problems are referred to another "specialist", the counselor. Hardly any wonder that under these organizational constraints that educational goals tend to be restricted to cognitive outcomes since these are needed by our technological society and can be achieved relatively efficiently within the limitations placed upon the organization by virtue of its size and the insufficient resources to operate it. Because education has systematically limited its impact upon students to acquisition of knowledge and some critical-analytical training, opportunities for self-growth in the humane areas of personal values and character development become reduced, possibly nonexistent within the large educational context.

Loss of freedom to choose may be found in school systems using homogeneous grouping and other pre-set educational tracks when students are placed in these groups by decisions from "above". Cicourel and Kitsuse (1963) provide evidence of the loss of freedom of choice and self-realization of potential in their study on the bureaucratization of the guidance function in one large comprehensive high school. Analogous to the bureaucratic practice of decision-making from "above", these investigators found that staff personnel of the school determined categories such as college-qualified and noncollege-qualified into which students were placed. Election of courses was based on students' choice as well as on "choices" made for the student by school personnel based on data such as biographies, personal "adjustment", social class, and other similar personal attributes. Students classified as noncollege-qualified were not permitted to enroll in courses required for college

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entrance. Although a student might have wanted to go to college, his assignment to a noncollege-track resulted in limiting his future opportunities for advanced educational training and access to occupational opportunities requiring such training. Thus the bureaucratization of student career decision-making in education would reduce freedom of choice and maximum realization of potential. Although social organization is necessary for effective operation of any large school system, we must find ways for our social organization to become less bureaucratic if we are to realize the humanistic-democratic ideas suggested above.

In summary, we have attempted to establish that education as we know it today has tended toward impersonality. In support for this point of view, we have turned to historical data which suggests that dominant cultural values, as a reflection of a technological, production-oriented society, have played a significant role in determining the institutional organization of the educational process, these values in turn have led to an emphasis on smoothness of functioning rather than on the development of individuals in terms of humanistic-democratic ideals. Assuming that we have been successful in establishing that the educational process is becoming more impersonal, what role have scientists played in this departure from humanistic-democratic values? More specifically, what has been the effect of educational research in facilitating or inhibiting the trends which we have described?

Educational Researchers: Partners in Crime?

Concluding that educational researchers are the "bad guys" in this human dilemma would be a gross over-generalization. We point out that there have been and continue to be attempts to study the impact of educational practices upon individuals in other than simply intellectual terms. (For examples of such work, the reader is invited to peruse Brookover, et al., 1965; Morse et al., 1961; Ketcham and Morse, 1965; Flanders, 1962.) Events in higher education are further indicative of concern about impersonality and the impact of population growth. There are several experimental programs which attempt to reduce the effective size of the collegiate institution by means of so-called cluster-and residential-college concepts. Examples of such experimental programs can be found at the Universities of Michigan, Florida State, Kansas, and California at Santa Cruz.

It should also be pointed out that some educational researchers conduct inquiries of a more theoretical nature toward the end of achieving a better <u>understanding</u> of natural

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phenomena in educational settings. Examples of this type of endeavor would include basic research on cognitive processes in concept formation, e.g., the work on trait-treatment inter- actions, investigation of relationships between peer group norms and classroom behavior, studies of the relationship between patterns of teacher influence and pupil attitudes, and other similar problems. An explicit assumption here is that achievement of understanding by scientific means is neither good nor bad, personal nor impersonal. Since the goal of such studies is to know and understand, the results generated by them can not and should not be evaluated against criteria which define impersonalization in education. On the other hand, the results may have implications in this regard but do not foster or impede progress toward humanistic- democratic ends until they are applied in educational practice in one form or another.

On the negative side, we would assert that educa- tional research supports the de-humanization process when it focuses on solving problems of increasing efficiency within the bureaucratic structure while, knowingly or un- knowingly, ignoring the effects of these practices upon in- dividuals. For example, although educators have long held to the belief in individualized instruction as an ideal, even here we find elements of impersonality creeping in in the form of teaching machines, computer assisted instruction, and other automated nonhuman teaching devices. If effective, these devices can certainly increase levels of learning and learning efficiency but at what price from the stand point of the individual? The criticism here is not directed a- gainst the concept of automated teaching devices per se, but rather at their application. If we hold that our humanistic- democratic ideal is a valid one, then we must be prepared to face the question as to what measures will need to be introduced in order to counter act the social distance be- tween humans that is created by these nonhuman teaching de- vices. Here again we should note that the evil arises from misapplication rather than from anything inherent within the findings or devices themselves. Callahan provides us with an example of the expedient use of "scientific" findings to illustrate this point.

Due to increases in school enrollment, in addition to the perennial lack of funds, school officials in the 1920's were faced with the necessity of increasing class size in order to accommodate the growing body of students entering school. In order to win support for this cause, efficiency minded school officials seized upon the results of studies on achievement and class size. Since these "scientific" studies had been unable to demonstrate any appreciable dif- ferences in achievement due to class size, the way was opened for allowing the number of students in a class to grow almost

unchecked to accommodate the growing numbers of students in the nation's school population. (Callahan, 1962, p. 234).

The fact that educational researchers may tend to work on problems primarily related to increasing intellectual learning efficiency to the apparent exclusion of other desirable educational objectives speaks to the point of how dominant cultural values affect even supposedly scientific enterprises. In his discussion of social science and social practice, Sanford (1966) points out that the role of scientist can never be completely separated from the role of citizen. Speaking to the point of ethical neutrality as the orientation of the scientist he states:

> Ethical neutrality is attractively humble and appropriately respectful of other people's right to choose. The trouble with it is that in the last analysis it is impossible. That has been the burden of much of my argument--that we have already made crucial choices and that our means are inseparable from ends. The danger of the neutral position, particularly when it is strongly defended, is that values will creep in unrecognized and turn the position into one of ethical blindness (Sanford, 1966, p. 350).

The crucial point here is that by choosing problems which arise out of the existing social setting of education, educational researchers may tacitly endorse values which have led to the establishment and continuation of that particular setting. This is neither good nor bad in an ethical sense unless it can be shown that by supporting existing social practices, the educational researcher is contributing to outcomes in contradiction to sought after social ideals. Moreover, this is most likely to happen when the emphasis is on short-term applications intended to alleviate current problems without reference to some desired long range goals. Thus, if educational researchers continue to focus on solving efficiency problems created by mass education in large social organizations, they will continue to support values in contradiction to humanistic-democratic ideals.

The fact that educational research is affected by cultural values is also evidenced by the policies of funding agencies such as the U. S. Office of Education. When funding policy guidelines are laid down for a particular research program, the researcher must slant his problems to correspond to the program's aims in order to insure funding. Being responsible to the tax paying public, a Federal agency such as the Office of Education will itself be affected by public attitudes toward the kinds of research thought important. For if funding policies go contrary to popular conviction, Congress as an agent for the public, has the power to withhold the financial resources needed for the conduct of

inquiry. Keeping in mind the impact of operational social values, it is not surprising then that recent financial figures on Research and Development (out of which monies are provided for educational research) reveal a 68% overbalance on the side of developing gadgets, techniques, or new material (Greenberg, 1967); researchers must justify their search for knowledge and understanding by demonstrating clear implications that their results can be utilized and channeled into the market of educational innovations. It must be pointed out that this utilitarian orientation has accounted for much of the progress America has achieved through its history, and therefore treating it as inherently evil would be counter to our own opinion. What is conspicuous in such an orientation, however, is the failure to link the consequences of new educational hardware with humanistic-democratic values.

To this point our thesis has been that de-humanization and impersonality in education have arisen due to the influence of dominant cultural values which emphasize development of intellectual and technical skills needed to man the services and machines of an efficiency-oriented, industrial society. Moreover, the support for public education has been such that the schools have had to adopt large scale modes of organization for purposes of training efficiency. De-humanization has arisen, we would argue, from the complex interplay of these dominant social values and the nature of large bureaucratic forms of school organization which have impersonality built into them by virtue of narrowly defined goals, centralized decision-making processes, high degrees of specialization, and consequent subordination of the needs of the individual to the functional requirements of the organization. Though we live in an age of science, science as a knowledge seeking activity can not be blamed for the de-humanization process which we have attempted to analyze nor for the misapplication of the results of scientific research. As Sanford (1966) points out, man has been more humane in the scientific area than during the pre-scientific periods of history. Using social deviance as an example, thieves in medieval England had their hands cut off as punishment. Even in the not too distant past people whom we would diagnose as mentally ill today were kept in chains and removed from community life. Through advances in understanding based on scientific inquiry, social deviants are now approached with a more humane view with the emphasis on rehabilitation rather than on retribution. And more currently, particularly in North and Latin America, man has begun adopting birth control devices in order to resolve not only economic problems in cases where individual countries are unable to provide sufficient food and shelter for their citizenry, but also perhaps more fundamentally to provide future conditions for healthful human growth.

Our inquiry into this problem has led us to consider several factors which impinge upon the role of the

educational researcher and his ability to facilitate or in-
hibit the actualization of idealized outcomes. In addition,
this task has been one which could be best described as
leading to an extreme self-consciousness on our part. No
doubt our self-consciousness arises from the fact that we
were forced to define some ideal social goals in meaningful
terms. This, of course, has made us immediately vulnerable
to attack from opposing points of view since, by definition,
we have no hard data to fall back upon to support our as-
sertions. Our self-consciousness was also increased by
discovering that the forces which have influenced the course
of educational development in this country seem to fall
short of the ideals which have been laid down by our founding
fathers. Thus we were forced to be critical of some of our
operational cultural values and practices. Yet we cannot
help wondering if this attempted analysis, in spite of the
discomfort that it has created within us (and hopefully
within you as the reader) does not suggest some possible
directions in which to turn if we are sincerely concerned
with embracing the values of a humanistic-democratic orien-
tation and the values of science.

Can the Scientific Approach Help?

One of the insights arising from this analysis is
the importance of continually examining means-ends relation-
ships. Though this idea is probably as old as philosophy
itself, it bears restating at this time. Moreover, the
attitudes and methods of scientific inquiry lend themselves
well to the objective study of means-ends relationships.
The first prerequisite for such an approach, however, is
to state precise definitions of objectives and the means
for measuring outcomes in relation to these objectives.

In many respects the methodological problems of the
social philosopher are much like those of the empirical
scientist. Just as the scientist must define the operations
by which he infers the presence or absence of his theoreti-
cal terms, so must the social philosopher be willing to
set down the empirical referrents which either validate or
invalidate the consequences of practices which are assumed
to lead to the idealized outcomes in terms of his value sys-
tem. Examples of validating criteria which would be rele-
vant to the humanistic-democratic position defined earlier
might include observable, therefore measurable, phenomena
such as school drop-out rates (as an indication of increas-
ing or decreasing development of individual potential), con-
structive use of dissent as indicated by public debate of
pressing social concerns rather than the destructive riots
observed recently in our large cities, inequalities of
occupational and educational opportunity as a function of
minority group status (again an indicator of opportunity

for maximal development of individual potential as well as respect for the intrinsic worth of human beings), the prevalence of mental disorders as another indicator of self-realization as well as level of reported satisfaction with regard to occupational effort and leisure time.

Presthus's analysis reveals that survival of bureaucratic social organizations often depends on using individuals as means rather than as ends in themselves. Yet according to Sanford we need to assess continually outcomes in terms of both the group and the individual because groups cannot survive unless the individuals within them also survive. An equal emphasis on group and individual outcomes would in no way be incompatible with the humanistic-democratic position presented herein. It may well be that this is the most reasonable stance for a democratic society anyway since groups are ever present in human existence and can be used to thwart or enhance any system of social values not inherently contradictory to the fundamental nature of man. Such a position as we set forth is not without complication. According to Olson and Daley (1963) education in contemporary American society helps to foster two contradictory values with the consequence of making it difficult for students to develop a clear sense of identity. One value refers to features of the individual, and the second value pertains to the ethic of maintaining harmonious social relationships (a functional requirement of bureaucratic organization). Sometimes to the individualist self-expression takes priority over getting along with others. At other times the ideal of individuality is lost in favor of resolving social relational problems. Do we not see this same value conflict in contemporary law where, for example, the communist sympathizer, advocating the overthrow of the American government, is suppressed and imputed with a crime? Our society has resolved this problem by maximizing the protection of the group and minimizing the free expression of the individual in the form of loyalty oaths, establishing the Congressional Committee on un-American Activities, and the like. Is this consistent with our American ideal of freedom of expression and dissent? Wherever the reader's sympathies are with regard to this particular example is less relevant than sharing with us an appreciation of the complication involved in setting forth our position of giving fair consideration to both individual and group outcomes.

So if there is a solution, it would seem to lie in the uses of the values of science as well as in the facts of science for determining the congruence between ideal ends and the means used to attain them, since the methods of scientific inquiry can be used to demonstrate means-ends relationships using the method of hypothesis testing whatever the value orientation might be. (Sanford, 19, p. 354). A more elaborate objective method for studying means-ends relationships can be found in Merton's (1957) paradigm for

functional analysis. However, whatever contribution science is likely to make to the amelioration of contemporary social problems, education being the primary problem with which we have been concerned, scientists must stop and reflect upon their own limitations and about their social and scientific values in relation to the larger social environment.

Beyond Science Alone: An Integration

Again we draw upon Sanford to make a very crucial point:

> The question is how the social scientist can avoid participating in misuses of himself and his science. It is sometimes argued that by adhering strictly to the role of researcher or to that of consultant, he may avoid responsibility for any bad social consequences of his work. It is very much to be doubted that he can thus avoid all responsibility. He is not free from considerations of value even when he is performing as a researcher or consultant. Social institutions, like individual human subjects, are very likely to change as a result of being studied, and it is up to the social scientist to insure that such changes are in accordance with considerations of welfare (Sanford, 1966, p. 344).

Thus there must be more than just a hint of interaction between the values which are cherished in our society and the particular phenomena which the educational researcher chooses to study. Travers, a prominent researcher in education, accentuates this point in his appeal that "moral and ethical problems of education must surely go hand in hand with the acquisition of scientific knowledge about the behavior of persons in the educational environments. What is the use of establishing lofty goals for education if human beings are incapable of achieving them?" (Travers, 1964, p. 7).

Thus the proper stance of both scientist and non-scientist, the educational researcher and the citizen with their unique ways of thinking about the world, is to become more sensitive to the ways in which both may serve to achieve the same goals. This sensitivity will require the latter group to abandon some of their empty platitudes and to act as a source of valuational leadership, and will require the former group to demonstrate facts related to those explicit central value issues in contemporary education. More than likely, an objective analysis of means-ends relationships in education around value concerns, as suggested by the criteria of humanization in this paper,

would require us to relinquish certain social practices rather than to reject any of our cherished ideals.

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