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ABSTRACT

In establishing educational goals through the Delphi technique, convergence of perception is of paramount interest. Progress toward integrated schools and changing sex roles make the perception of educational goals by groups defined by race and sex of practical significance. In three studies involving panels of community leaders, educators, and high school students respectively in metropolitan Atlanta, convergence in perceptions of goals was examined within each panel as a whole and among groups defined by race and sex within panels. It was found that both individual and group perceptions generally tended to converge. Goals reflecting serious areas of disagreement were identified. (Author)

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EDUCATIONAL GOALS: HOW MUCH AGREEMENT CAN WE GET ON WHICH ONES ARE IMPORTANT?

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A paper presented at the Annual Meeting of the American Educational Research Association, Washington, D.C., April, 1975.

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EDUCATIONAL GOALS: HOW MUCH AGREEMENT CAN WE GET ON WHICH ONES ARE IMPORTANT?

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Objectives. Objectives were: (1) to establish goals for education in Atlanta, using the Delphi technique; (2) to determine the extent to which different groups—community leaders, educators, and students, broken down by race and sex—converged toward agreement on the relative importance of goals in the Delphi studies; and (3) to identify the goals that constituted the most critical areas of disagreement among these groups.

The first objective was a major undertaking of the Atlanta Assessment Project (AAP). AAP is a three-year endeavor to develop techniques and tools for measuring the progress of Atlanta's 17 and 18-year-old youth, both in school and out, toward the achievement of educational goals relevant to living in the Atlanta of 1985 and thereafter. Administered and operated within the Atlanta Public Schools, the project is funded under Title III, ESEA. The second and third objectives above were subordinate undertakings of the AAP. It is these latter two objectives, however, that are the primary focus of this paper.

Theoretical Framework. It is generally recognized that there are two types of forecasting involved in establishing educational goals. One type forecasts what conditions probably will be at a given time in the future, and the other forecasts what educational goals should be in the light of these probable future conditions (e.g., Rosove, 1968; Weaver, 1971). Both types of forecasting were involved in establishing goals

for education in Atlanta, 1985. The first type of forecasting was accomplished through tapping the perceptions of experts through position papers they had written about the future in Georgia in their respective fields. The second type of forecasting was accomplished through use of the Delphi technique. There is precedent for the use of the Delphi technique in forecasting what educational goals should be (e.g., see Cyphert and Gant, 1970; and Uhl, 1971).

The Delphi technique was developed by Rand Corporation for use in answering questions about the future when a great deal of uncertainty and complexity surround the area of concern (Dalkey, 1970). The procedure calls for iteration in eliciting perceptions from participants, so that they make a series of judgments, each successive one being made in the light of a summary of the judgments of all participants on the previous round. This process is designed to produce increasing accuracy of judgment and increasing agreement among participants from round to round. Rosove (1968), in evaluating 21 different techniques for predicting the future, concluded that the Delphi technique was among the five potentially most useful methods of forecasting that might be applied to the functions of a center for educational policy research. The other four methods require more information and more certainty about the future than the Delphi technique does. Parenthetically, it may be noted that the study of educational goals is a critical function of educational policy research.

Convergence toward agreement among participants is considered to be of paramount importance in the use of the Delphi technique. Convergence is the primary reason for employing an iterative process that is considerably more difficult to administer than a one-round survey, the traditional means of tapping perceptions. It may be anticipated that the more homogeneous in

background the members of a Delphi panel are, the greater is the likelihood of convergence occurring, given that the homogeneity is perceived by the members. Obversely, the more heterogeneous in background the members of a Delphi panel are, the less likely are they to converge. This relationship is readily derivable from a theory of cognitive balance as developed by a number of investigators (Heider, 1946; Osgood and Tannenbaum, 1955; Festinger, 1957). If it is assumed that use of the Delphi technique in educational goal-setting should involve large numbers of persons from a wide variety of backgrounds as participants, then the question of whether or not convergence among different groups of persons does in fact occur and, if so, to what extent, is a highly significant one.

In the literature concerning use of the Delphi technique for educational goal-setting, some attention has been given to convergence among groups as well as among individuals (e.g., Cyphert and Gant, 1970; and Uhl, 1971). Such studies have usually dealt with goal-setting in higher education in which groups of participants were defined in terms of general role in respect to education, such as, faculty, administrators, students, organizational and political leaders, etc. Uhl reported convergence among such groups over rounds within the institutions of higher education studied. Cyphert and Gant did not report an analysis of convergence among groups, but they did report that differences in agreement within groups were greater than those between groups. These investigators also made the suggestion, based upon anecdotal data from the written comments of respondents, that when respondents disagreed with the consensus rating of a goal, they tended to attribute that rating to a panel subgroup to which they did not belong. This tendency is consistent with the principle of cognitive balance referred to above. Cyphert and Gant reported further that the "University family"

was the group making the "greatest change" in ratings throughout the study. This group included faculty members from the school of education, selected student leaders, and top administrators and policy makers within the university. The University family, it may be assumed, was the most homogeneous of the several groups included in the study with respect to its subject, which was desirable goals for the school of education.

In the present study, which focused on student-centered goals of public education at the secondary level in a major metropolitan area, the definition of groups was not limited to role in respect to education. Groups being examined were defined in part by race and sex. As integration is achieved in school systems, the extent of agreement among groups from different racial backgrounds in respect to educational goals should be of some concern in establishing policy within a school system. Further, with the current trend toward new conceptions of sex roles in our society, differences between males and females in the perception of educational goals are more important than ever.

Data Source. Three studies were conducted using the Delphi technique. One involved professional, technical, managerial, and community leaders in the Atlanta area. The occupational divisions at the professional, technical, and managerial levels presented in the Dictionary of Occupational Titles (1965) were used heuristically for structuring the selection of respondents. Additionally, several leaders in the black community assisted in the identification of blacks in the occupational and leadership categories to be represented. Several other categories of respondents were added to provide for individuals in public service roles that were primarily political in nature, e.g., members of the Atlanta Board of Education, members of the Atlanta Board of Aldermen, and state legislators from the Atlanta area.

Of the approximately 400 persons invited to participate in this study, 275 completed all three rounds.

The second study involved high school teachers, counselors, principals, and other administrators directly involved with instruction in the Atlanta Public Schools. Teachers were selected to be representative of the entire range of subject matter in each of the 25 high schools then in the Atlanta system and also representative of the distribution of teachers by race and sex within each high school. All principals and other administrators that were directly involved with instruction were asked to participate. Of the 445 that were invited to take part in the second study, 429 completed all three rounds.

The third study involved high school student leaders selected to represent the 25 high schools and the distribution of students by race and sex within each individual school. Of the 375 students invited to participate, 369 completed all three rounds.

The Delphi technique has usually been employed with relatively small groups of participants. However, Cyphert and Gant (1970) and Uhl (1971) report using much larger groups, 400 in the former study and almost 1,000 in the latter. In the three studies reported here, a total of 1,073 respondents completed all three rounds.

It has usually been the case that groups of experts have been impaneled as participants in a Delphi study. In both of the studies just cited, however, the expertise of respondents was de-emphasized. The results of investigation by Brown, Cochran, and Dalkey (1969), as reported by Uhl (1971), in which students were used as participants, suggest that nothing of significance is lost by including less knowledgeable persons as long as there are some participants who are knowledgeable.

Perhaps expertise is not a critical criterion for selection of a respondent in a study that is concerned with what should be. Perhaps a more important question than who is expert is what kinds of persons should be involved in deciding public policy. The question is as much political as technical, if not more so. Discussions of the accuracy of judgment (see Weaver, 1971) seem less applicable to the question of what should be than to the question of what may be.

Be that as it may, the three groups of respondents included in the Delphi studies in the Atlanta Assessment Project were perceived to have special areas of expertise related to education. It was felt that among the professional, technical, managerial, and community leaders of Atlanta resides the competence to make judgments about the relative importance of specific educational goals in the light of probable future conditions in the Atlanta area. It was thought that probably no group was more qualified than this one to make such judgments. Among the teachers and administrators of the Atlanta Public Schools resides another kind of expertise, an understanding of the educational system and what it can do, and an understanding of students. Among the students resides a still different kind of expertise, for they are the ones who are living and experiencing the learning process. The student himself has perceptions of educational goals that, if for no other reason than his unique perspective as a learner, should be included in a Delphi study of educational goals.

Methods and Techniques. The starting point in establishing educational goals for the Atlanta of 1985 was a set of 86 previously identified goals that had been adopted for the State as a whole by the Georgia Board of Education (Advisory Commission on Educational Goals, 1970). These goals

had been derived from position papers written about probable future conditions in the State by experts in a number of areas of concern (Schabacker et al, 1970). A questionnaire designed to elicit a judgment about each of the 86 goals on a six-interval scale of importance was presented to each participant on three successive rounds. Importance was considered in terms of preparing young people to live in the Atlanta of the future. In the first study, involving professional, technical, managerial, and community leaders, each respondent was interviewed personally once a week for three weeks. In the study involving students, the questionnaire was group-administered every two weeks over the three rounds. In the educator study, the questionnaire was handled in a variety of ways, all documented, from group administration to participant self-administration. What participants did in each of the three rounds in evaluating goals is described below:

Round One: To establish a future-oriented frame of reference in making judgments about the relative importance of goals, each participant was asked to read a short essay containing abstracts of the position papers that were used in the derivation of the goals. In responding to the questionnaire, each participant judged the relative importance of each of the goals in the questionnaire and then wrote down any additional goals that he felt were very important and should be included.

Round Two: Each participant was given an opportunity to again read the essay containing the abstracts of the position papers about the future of Georgia if he so desired. Each participant responded to the same questionnaire as in the first round, but with a difference. For each goal, the response category that was selected by the most participants in the first round — the modal response — was encircled. Participants were asked to write in a "comments column" in the questionnaire their reasons for judging any particular goal to be either more important or less impor-

tant than the modal response. Additional goals suggested in Round 1 were submitted to participants in an additional goals questionnaire that required judgments on the same scale of importance as that used with the initial 86 goals.

Round Three: Each participant was again given an opportunity to review the essay containing the abstracts of position papers about the future of Georgia if he so desired. The questionnaire used in the third round was the same as that used in the first two rounds, with appropriate response categories encircled to indicate the modal responses made in the second round. To further aid participants in making their final judgments, a summary of comments about each goal was presented with the questionnaire. This summary contained reasons given in Round 2 for judging each goal to be more important or less important than the modal response. An additional goals questionnaire was administered in Round 3 also.

Results and Conclusions. Analysis of data depended heavily upon nonparametric methods. For a general discussion of the techniques employed here, see Siegel (1956). Though similar analyses were performed on the additional goals, the results reported here are based on only the initial set of goals.

The goals were rank ordered on the basis of the mean importance of each goal as seen by community leaders, by educators, and by students respectively. An overall ranking was computed by taking the mean importance rating across the three panels of respondents for each goal and then ranking these.

Each of the three panels of respondents—community leaders, educators, and students—was further broken down into four groups: white males, black males, white females, and black females. The goals were then further rank ordered on the basis of the perceived mean importance of each goal for each of these groups within the three panels.

In ranking 86 goals on the basis of mean importance registered on a six-interval scale, the reliability of the ranking is a fundamental question. To determine reliability, each of the three panels was randomly divided into halves; and the goals were ranked separately for each half. The Spearman rank correlation technique was employed to determine the correlation in ranking between the halves of each group of participants. The resulting coefficients, computed for all three rounds, ranged from .96 to .99.

A similar technique was employed to determine the reliability of the rankings by race and sex. Table 1 shows the coefficients for educators and students. The Delphi study of community leaders and the analysis of the

resulting data were conducted about five months earlier than that of educators and students, and the reliability of rankings by race and sex for community leaders was not computed.

It can be seen that the ranking of goals by race and sex tended to be highly reliable. Of the 24 coefficients reported, only one is below .90 (.84). Table 2 shows the size of each group in each panel.

To test for general convergence within each of the three Delphi panels, the Wilcoxon matched-pairs signed-ranks test was used to determine whether the S. D.s became smaller from Round 1 to Round 2 to Round 3. It was found unequivocally that convergence did occur on Round 2 for all three panels. The signed difference between the standard deviation of Round 1 judgments and that of Round 2 judgments for each goal was positive in every case for each panel.

On Round 3, however, only the community leader panel showed general convergence. Both the student and educator panels showed considerable divergence. For the community leaders, the signed difference between the standard deviation of Round 2 judgments and that of Round 3 judgments for each goal was positive in 82 of the 86 cases. For educators, this difference was negative in 66 of the 86 cases; and for students, it was negative in 70 of the 86 cases. The overall movement from Round 1 to Round 3 for all three panels was nevertheless convergence. Divergence among students and educators on Round 3 will be considered in the discussion section of this paper.

Convergence among groups defined in terms of race and sex within each Delphi panel was brought into focus by computing a Spearman rank correlation coefficient (rho) for each pair of groups within a panel for each round. Uhl (1971) used a similar technique in his investigation of the extent of

agreement among groups in a goal-setting Delphi study. Convergence among groups did occur, demonstrated by the fact that, of the 18 possible pairings of groups within the three panels on Round 2, 16 of them showed an increase in the correlation coefficient compared to Round 1, as shown in Table 3, and this occurred in spite of the relatively high level of agreement among groups at the outset. On Round 1 the average coefficient across all pairs was .88, as compared to .93 on Round 2.

There was no indication of further movement toward agreement among groups generally on Round 3. In fact, 7 of the 18 groups showed slight reductions in the magnitude of the Spearman rho, whereas 6 groups showed slight increases, and 5 showed no change at all.

For all three panels, community leaders, educators, and students, the groups that tended to have the highest initial agreement, on Round 1, were the male and female groups of the same race, both black and white. The groups that tended to show the lowest level of agreement initially were black females with white males or females. Five of these six pairings (across the three panels) were initially as low as or lower than any other pair within the particular panel. All six of these pairings showing low initial agreement showed an increase in agreement across rounds.

In general, the educator panel showed higher initial agreement among groups and higher final agreement than did the other panels, perhaps due to the relatively greater commonality of orientation toward education that one would expect to find among educators as opposed to noneducators.

To determine the degree of agreement among the three panels as a whole over rounds, the Spearman rank order correlation technique was again used. Table 4 shows these results. It may be seen that there was high initial agreement between the community leaders and educators and that the students

tended to be somewhat different from either of them. The general pattern of correlation coefficients shows clearly that inter-panel agreement declined on the second round, with a slight increase again on the third round. This finding will be considered in the discussion section of the paper.

The rank ordering of goals on the basis of third-round judgments for each group within each panel and for each panel as a whole was examined in order to identify the particular goals representing the most critical or the most socially significant areas of disagreement among groups. The relative social significance of disagreement was assumed to be a function of both the extent of disagreement and the relative importance of the goal at the heart of the disagreement. Extent of disagreement was operationally defined as the S. D. of the ranks assigned to a goal by the 12 groups within the three panels. A further index of disagreement examined was the range of the ranks assigned to a particular goal. As a measure of the relative importance of a given goal, the overall rank was used.

Table 5 presents the ranks for each goal, group by group, and Table 6 presents the S. D. of ranks, the range of the ranks, and the minimum and maximum ranks for each goal. To identify areas of critical disagreement, these two tables may be used conjunctively, Table 6 to identify the goals to be examined, and Table 5 to examine the actual ranks, group by group.

For example, the first goal in Table 5, "is able to listen, speak, read, and write," shows a pattern of ranks that may warrant examination because the goal is the most important one overall. Table 6 indicates that the S. D. of the ranks is 4.812, and that the ranks vary from 1 to 14. A closer look at Table 5 shows that five of the groups—all five being groups in the educator and community leader panels—gave a rank of 1 to the goal.

Three other groups gave this goal a rank of 2 or 3. Therefore, eight of the groups were in fairly close agreement that this goal is of top importance. However, two groups, both black and white female students, gave this goal a rank of 14. The two remaining groups, white male students and educators, gave the goal a rank of 5 and 6 respectively. These differences were primarily between panels and between the sexes.

It may be instructive to determine what black and white female students considered to be the most important goals. For black female students, the top-ranked goal was, "is able to maintain individual integrity in group relationships." This goal, it may be seen, was the second-ranked goal for the student panel as a whole, whereas it was ranked 20th by educators and 28th by community leaders. For white female students, two goals tied for the top rank. They are, "supports the free and voluntary exercise of religious choice," and, "understands freedom as the right to make choices within the framework of concern for the general welfare." The key concept in these two goals is freedom of choice.

Another example of a goal that would seem to warrant close examination along these lines is, "understands and accepts the responsibilities and privileges of citizenship." Community leaders ranked it 9th, as compared to a rank of 22 for educators, and a relatively low rank of 42 for students. The pattern of differences in ranking this goal has apparent implications for all three variables, panel, race, and sex. It may be seen in Table 6 that the S.D. among ranks for this goal is a relatively large 13.504, and the range is from a high of 1 to a low of 44. Within panels, the white female community leaders ranked this goal 1, as compared to 15 for black females. Among educators, there is the suggestion of a sex-related pattern of rankings, with both black and white males having given this goal a higher ranking than either the black or white female groups did. Among students both black males and females

ranked the goal lower than white males or females did. However, the greatest differences in regard to this goal were between panels.

An example of a goal for which the greatest differences were between groups within panels, rather than between the panels themselves, is the goal, "knows how and where to seek employment and is able to apply for a job and participate in a job interview." This goal was ranked 20th by community leaders, 15th by educators, and 16th by students. However, within both the student and educator panels respectively, it can be seen that there were considerable differences between the races, with both black and white females having ranked the goal considerably higher than did the white male and female groups. In fact, for the black male students, this was the number one goal. There is only the barest hint of a difference among groups in the community leader panel.

Discussion. There was definitely convergence among groups defined in terms of race and sex within each panel. Considering the relatively high initial agreement among the groups, it is impressive that any detectable convergence occurred. That convergence between groups did occur is testimony to the power of the Delphi technique in producing movement toward consensus, utilizing as it does the tendency toward cognitive balance. This tendency has been well documented as a powerful force in human behavior.

What happened on Round 3 is of considerable interest. Looking at each panel as a whole, there was evidence of movement away from convergence in the educator and student panels. This finding is different from that reported by Cyphert and Gant (1970) and that reported by Uhl (1971). Cyphert and Gant found that movement on the last questionnaire of their study, which corresponded to Round 3 of the present investigation, was about equally divided between movement toward consensus and movement away from consensus, or in effect, no overall convergence at all. Uhl found that convergence did occur on Round 3, though it was not as marked as that on Round 2.

A possible explanation for this tendency to diverge on Round 3 lies in the fact that this was the round on which a summary of dissenting opinions expressed on Round 2 was provided to each participant. It may be assumed that a summary of dissenting opinions would not encourage further convergence, but would in fact have the opposite effect, providing reinforcement for a divergent response. This finding is particularly interesting in view of that reported by Sweigert and Schabacker (1974) regarding the inhibiting of convergence through feedback of each participant's own responses. Apparently the feedback of dissenting opinions, whether one's own or those of other

members of the panel, has an inhibiting effect on convergence. It would appear that the stronger effect in this connection is produced by exposure to the dissenting opinions of others. Both of the two studies previously cited also included a summary of dissenting or minority opinions as feedback to participants on the final round, but without the divergence effect found in the present study, though Cyphert and Gant had hypothesized the occurrence of such an effect.

A related finding of interest was that agreement among the three panels as a whole decreased on Round 2, as compared to Round 1, and tended to increase again on Round 3. In seeking an explanation for this finding, it should be kept in mind that the three panels constituted groups completely independent of one another. Members of each panel received feedback on the results of their own previous responses as a group, but did not receive feedback on the responses of the other panels. Consequently, it may very likely have been the case that as the members of each panel converged among themselves, one result was a slight reduction in the level of agreement across the panels. Further, it may have been the case that as the tendency to diverge occurred on Round 3, the level of agreement among the panels tended to increase slightly again. The changes in level of agreement over rounds was very small, but the pattern is consistent.

In examining the ranks assigned to particular goals by the groups within each panel, it should be kept in mind that there is definitely an element of judgment involved in identifying goals over which disagreement may be socially significant. The intent in this paper is to present a set of quantitative indices for social significance and to illustrate how these indices may be used. As pointed out in the previous section, the more important in general

a goal is perceived to be and the greater the variability among groups in perceiving its importance, the greater is the social significance of the disagreement about its importance and, consequently, the greater is the need to resolve the disagreement in setting policy.

In the previous section, measures of the social significance of disagreement were provided for each goal examined in this study, and examples of different patterns of disagreement were presented. Since the groups were defined in terms of race, sex and overall panel, a pattern of disagreement might involve any one or any combination of these variables.

A question might be raised as to why the rank ordering of goals was used rather than the actual mean ratings of importance on which the rank ordering was based. Ranks were used because the interest was in the relative importance given to a particular goal by a group, not in the specific point on the importance scale constituting the arithmetic average of perceptions. A rank ordering is of genuine practical significance because goals compete with one another for resources being allocated by a school system. Further, a rank ordering provides a kind of standard score, if you will, that tends to eliminate differences among groups in the use of scale points, i.e., where one group tends to give higher ratings generally than does another group.

It should be kept in mind, of course, that use of a scale of importance such as this possibly has both "floor" and "ceiling" effects built into it. The top and bottom-ranked goals tended to have less variability in perceived importance than did the middle-ranked goals because there was less room to vary at the top and bottom than there was in the middle. This may be readily seen in Table 6. The floor and ceiling effects, if kept in mind, should not

pose a serious problem in using the indices. A six-interval scale is approaching the limit that can be used effectively in this type of measurement. (See Osgood, Suci, and Tannenbaum, 1958.) Further, it may be contended that "true" variability in responses may tend to decrease somewhat at either end of a scale because the most important and the least important are generally easier to identify than are things of only average importance. The middle range is a kind of nebulous area where discriminations tend to be more difficult to make. Table 6 shows, however, that in spite of generally smaller S.D.'s at either end of the rank ordering, differences in S.D. between goals that are adjacent to each other in the ranking are frequently pronounced. These are the differences in variability that are worth examining.

A question might be raised as to whether or not an examination of 86 goals in a rank ordering may not risk capitalization on chance. In other words, how much confidence may one have that a pattern of rankings across groups is meaningful, and not just a random occurrence. The answer to this question lies in the stability of the rankings. The reliability coefficients for the rankings, shown in Table 1, indicate that the rank ordering by groups was highly stable, making it generally unlikely that large differences in ranking a goal across groups were due to chance. Ten of the twelve groups had N's of very respectable size. Only the black and white female groups in the community leader panel had N's that were small enough to be bothersome. It perhaps should be stressed that the pattern of differences in ranking is of considerably more interest and importance than a single difference between any two groups. A pattern is much less likely to be the result of chance than is a single difference.

Perhaps one final question should be considered. Once a goal is identified as having a socially significant level of disagreement among groups regarding its relative importance, what should be done with it? One reasonable approach would be to attempt to clarify the basis for the disagreement, perhaps through in-depth interviewing of selected panel members whose judgments reflect the different points of view, or perhaps through holding a meeting of selected panel members to discuss the nature of the disagreement.

It is possible that the disagreement might be the result of different interpretations of the goal statement, so that the resolution would be to develop a common understanding of what the goal statement means and possibly to generate new statements reflecting alternative interpretations. It is also possible that the disagreement is a genuine one, not merely differences in interpretation. Once the nature of the disagreement is understood, a decision can be made as to whether the goal needs to be restated, or split into more than one statement, or thrown out altogether, or dealt with in terms of its relevance to only part of the community, i.e., pluralistic sets of goals for a pluralistic community.

Summary. In establishing educational goals through the Delphi technique, three studies were conducted involving panels of community leaders, educators, and high school students respectively in metropolitan Atlanta. Convergence in perception of goals was examined within each panel as a whole and among groups defined in terms of race and sex within panels. It was found that both individual and group perceptions generally tended to converge. Convergence among groups was particularly impressive because of the relatively high level of initial agreement among them. An additional finding of interest was the tendency for divergence on the third round among students and educators. Indices for identifying goals that reflect socially significant areas of disagreement were presented.

Importance of the Study. There has been increasing interest in the use of the Delphi technique in educational goal-setting. If it is assumed that use of the Delphi technique in educational goal-setting should involve large numbers of persons from a wide variety of backgrounds as participants, and if it is further assumed that convergence among different groups of persons participating in a Delphi study is important, then the question of whether or not convergence among different groups of persons does in fact occur is a highly significant one. In the present study, groups were defined in part in terms of race and sex. As integration is achieved in school systems, the question of the extent of agreement among groups from different racial backgrounds as to what educational goals are important is of great concern in setting policy. Further, with the changing conceptions of sex roles in our society, differences between males and females in the perception of the relative importance of goals are of considerable importance.

Even when there is relatively high agreement among groups, examination of specific areas where relative disagreement may exist can be very useful. Where there is disagreement on a goal that is considered to be very important by one or more groups, there is a need for further analysis to determine the causes of disagreement. This kind of investigation may develop information that has considerable relevance to policy setting within a school system.

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TABLE 1

RELIABILITY OF THE RANKINGS OF GOALS IN EACH ROUND BY RACE AND SEX, SHOWN FOR EDUCATORS AND STUDENTS

Group	Spearman Rank Correlation		
	Round 1	Round 2	Round 3
Educators			
White Males	.91	.97	.96
Black Males	.93	.92	.93
Black Females	.96	.96	.95
White Females	.94	.94	.97
Students			
White Males	.91	.94	.96
Black Males	.92	.94	.96
Black Females	.95	.97	.94
White Females	.84	.94	.91

NOTE: In determining the reliability of the rankings, each group of participants was randomly divided into halves, and a ranking of goals was developed for each half. The correlation between the rankings for the halves was then computed for each group.

TABLE 2

THE SIZE OF EACH GROUP IN EACH DELPHI PANEL

Group	N
Community Leaders	
White Males	153
Black Males	83
White Females	22
Black Females	17
Total	275
Students	
White Males	57
Black Males	124
White Females	53
Black Females	135
Total	369
Educators	
White Males	82
Black Males	98
White Females	111
Black Females	138
Total	429

TABLE 3

CORRELATIONS AMONG GROUPS DEFINED BY RACE AND SEX WITHIN EACH DELPHI PANEL IN RANKING THE GOALS FOR EDUCATION ON EACH ROUND

Pairs of Groups	Spearman Rank Correlation		
	Round 1	Round 2	Round 3
Community Leaders			
White Males and Black Males	.87	.91	.91
White Males and White Females	.92	.95	.95
White Males and Black Females	.78	.89	.87
Black Males and Black Females	.89	.92	.94
Black Males and White Females	.88	.95	.93
Black Females and White Females	.80	.90	.88
Educators			
White Males and Black Males	.87	.93	.94
White Males and White Females	.96	.95	.96
White Males and Black Females	.87	.94	.94
Black Males and Black Females	.95	.98	.96
Black Males and White Females	.88	.95	.95
Black Females and White Females	.90	.93	.96
Students			
White Males and Black Males	.85	.93	.91
White Males and White Females	.94	.95	.96
White Males and Black Females	.83	.60	.91
Black Males and Black Females	.96	.98	.97
Black Males and White Females	.85	.95	.91
Black Females and White Females	.85	.93	.93

TABLE 4

CORRELATIONS AMONG THE THREE DELPHI PANELS IN RANKING THE GOALS FOR EDUCATION ON EACH ROUND

Pairs of Groups	Spearman Rank Correlation		
	Round 1	Round 2	Round 3
Community Leaders and Educators	.94	.90	.92
Community Leaders and Students	.81	.77	.80
Educators and Students	.83	.79	.82

TABLE 5

RANKING OF EDUCATIONAL GOALS ACCORDING TO PERCEIVED RELATIVE IMPORTANCE, SHOWN BY RACE AND SEX WITHIN EACH DELPHI SAMPLE

Statement of Goal	Students					Educators					Community Leaders					General Overall Rank
	Black		White		Overall Rank	Black		White		Overall Rank	Black		White		Overall Rank	
	M	F	M	F		M	F	M	F		M	F	M	F		
The individual. . .																
is able to listen, speak, read, and write	3	14	5	14	7	2	1	6	1	1	1	1	1	3	1	1
recognizes that every man has the right to participate freely in society so long as the rights of others are not violated	2	3	6	3	1	1	12	6	2	3	7	2	2	5	3	2
understands and respects himself - his abilities, interests, values, aspirations, limitations	7	18	6	26	14	7	4	13	15	7	2	6	3	1	2	3
has the skills necessary for further study or for entry directly into the world of work	11	2	16	6	3	9	7	20	16	11	8	2	6	7	6	4
has concern for his fellow man	17	17	3	8	12	10	2	9	7	5	5	7	8	11	5	5
is able to set personal goals	7	3	14	3	5	5	13	15	8	8	6	2	9	8	7	6
has the desire to preserve the rights and property of others	31	21	9	21	21	2	3	2	4	2	12	11	5	8	8	7
supports the free and voluntary exercise of religious choice	7	15	6	1	6	17	9	10	22	14	9	7	12	6	12	8
is able to communicate feelings, ideas and information	10	13	18	17	13	28	19	22	8	18	15	14	14	11	13	9
understands and accepts the responsibilities and privileges of citizenship	44	42	26	30	42	13	25	14	26	22	9	15	7	1	9	10

TABLE 5 - CONTINUED

Statement of Goal	Students Black M	Students Black F	Students White M	Students White F	Students Overall Rank	Educators Black M	Educators Black F	Educators White M	Educators White F	Educators Overall Rank	Community Leaders Black M	Community Leaders Black F	Community Leaders White M	Community Leaders White F	Community Leaders Overall Rank	General Overall Rank
The individual. . .																
is committed to the values expressed in The Bill of Rights	41	43	39	20	41	17	30	3	27	23	4	10	10	14	10	11
recognizes that work is necessary and desirable	27	36	42	41	37	25	29	22	31	28	11	5	11	10	11	12
understands and accepts the relationship of rights to responsibilities	47	46	45	42	46	5	10	1	4	4	3	9	4	4	4	13
takes pride in workmanship and accomplishment	38	22	18	31	34	10	20	18	2	10	19	25	15	16	15	14
understands and accepts the necessity and desirability of avoiding discrimination in employment practices	6	3	3	14	4	8	13	37	28	25	13	12	31	25	17	15
possesses the attitudes and personal values that enable him to overcome adversity	15	10	18	5	10	28	15	11	20	16	22	21	18	24	18	16
is able to maintain individual integrity in group relationships	5	1	9	9	2	31	15	24	10	20	30	39	24	23	28	17
understands freedom as the right to make choices within the framework of concern for the general welfare	24	12	22	1	15	17	17	15	12	13	29	39	19	16	20	18
understands the effects of drugs, alcohol and tobacco	21	7	12	6	10	15	18	30	18	21	36	18	20	19	23	19
knows how and where to seek employment and is able to apply for a job and participate in a job interview	1	8	36	37	16	4	5	28	19	15	20	26	25	28	20	20

TABLE 5 - CONTINUED

Statement of Goal	Students Black M	Students Black F	Students White M	Students White F	Students Overall Rank	Educators Black M	Educators Black F	Educators White M	Educators White F	Educators Overall Rank	Community Leaders Black M	Community Leaders Black F	Community Leaders White M	Community Leaders White F	Community Leaders Overall Rank	General Overall Rank
The individual. . .																
has the knowledge and skills for managing personal finances	12	20	31	28	20	28	7	24	17	19	22	18	23	27	19	21
desires to acquire and maintain a healthful natural and physical environment	24	30	2	9	18	21	24	6	10	12	27	37	21	30	26	22
considers public office to be a public trust	24	33	16	26	25	35	41	27	36	37	22	16	16	26	16	23
practices responsible behavior when using private and public facilities	30	32	24	21	29	22	5	3	4	6	37	38	17	15	23	24
has set a tentative occupational or career goal and possesses an educational training plan to achieve it	4	11	30	36	17	25	27	33	37	33	18	13	37	34	32	25
possesses the attitudes and skills to pursue learning as a life-long process	35	30	18	21	32	22	32	24	25	27	17	34	33	20	27	26
has a personal philosophy of life	16	27	34	14	22	33	20	34	35	30	32	31	36	22	36	27
respects and cares for the property of his employer and fellow workers	50	47	46	47	47	13	11	5	14	9	14	18	13	13	14	28
is able to adjust to changing human relationships brought about by geographic and social mobility	12	27	15	28	19	24	23	21	22	24	38	34	39	34	39	29
is able to function as a follower, a coworker and a leader in work	22	25	29	39	30	37	33	38	40	38	28	26	28	41	33	30
understands and is committed to the processes and purposes of law	34	37	33	31	36	35	35	11	31	31	40	41	21	28	35	31

TABLE 5 - CONTINUED

Statement of Goal	Students Black M	Students Black F	Students White M	Students White F	Students Overall Rank	Educators Black M	Educators Black F	Educators White M	Educators White F	Educators Overall Rank	Community Leaders Black M	Community Leaders Black F	Community Leaders White M	Community Leaders White F	Community Leaders Overall Rank	General Overall Rank
The individual. . .																
desires to improve the quality of life in the community	22	27	26	31	28	43	43	43	43	43	16	26	34	16	25	32
understands and exercises the citizen's role in the decision-making processes of government and politics	36	34	22	17	32	44	44	41	42	44	21	16	29	34	38	33
is willing to live in a racially integrated society	36	26	44	45	39	40	35	42	34	40	34	26	38	39	38	34
knows how, when and where to secure medical services	12	6	28	9	9	12	28	36	31	29	42	34	53	50	46	35
values and seeks sound mental and physical health through good nutrition	20	19	36	38	26	17	31	30	38	36	43	43	44	43	42	36
knows how and where to obtain additional training and education	50	50	52	49	50	15	25	29	22	26	22	21	27	20	22	37
is able to understand and tolerate dissent	17	9	9	9	8	48	46	46	49	47	31	31	30	34	34	38
is able to adjust to changing jobs and job requirements	52	49	48	48	49	25	20	18	12	17	32	30	35	30	37	39
is able to secure information for a wide variety of sources, to analyze, to synthesize, to draw conclusions and to make decisions	48	48	47	51	48	33	35	35	28	34	26	21	32	30	31	40
knows and practices socially acceptable behavior	43	39	32	34	40	38	40	39	39	39	47	68	41	42	41	41
knows and understands that the quality of man's life depends upon the harmony he achieves with his natural environment	33	38	24	25	35	32	34	30	30	32	59	49	45	57	50	42

TABLE 5 - CONTINUED

Statement of Goal	Students Black M	Students Black F	Students White M	Students White F	Students Overall Rank	Educators Black M	Educators Black F	Educators White M	Educators White F	Educators Overall Rank	Community Leaders Black M	Community Leaders Black F	Community Leaders White M	Community Leaders White F	Community Leaders Overall Rank	General Overall Rank
The individual. . .																
values and demands the conservation and proper utilization of land and other natural resources	28	41	1	17	26	39	42	17	21	35	72	78	47	43	54	43
possesses knowledge, understanding and appreciation of his heritage	39	40	51	46	42	41	38	40	41	41	41	45	69	57	49	44
knows how to secure and use community services	29	23	35	24	31	47	47	52	52	49	54	60	71	57	60	45
understands the functions of public education in our society and how it is administered	32	35	43	40	38	54	51	53	54	53	44	46	64	61	55	46
understands the emotional and social aspects of human sexuality	49	54	48	53	52	45	45	44	45	45	46	49	43	43	43	47
knows and understands workmen's compensation, social security, retirement systems, employment insurance and other employee benefits	17	16	39	35	23	42	39	45	44	42	81	81	85	85	81	48
is able to make responsible decisions regarding the use of time	60	59	57	69	60	46	47	49	47	46	35	21	26	30	30	49
is committed to the concept of accountability for the use of public resources	39	23	12	9	24	70	71	62	62	64	49	46	42	48	44	50
recognizes the influence of the family and religious and community organizations in shaping values in a changing society	53	52	54	50	53	50	50	47	57	52	51	74	45	50	47	51

TABLE 5 - CONTINUED

Statement of Goal	Students Black M	Students Black F	Students White M	Students White F	Students Overall Rank	Educators Black M	Educators Black F	Educators White M	Educators White F	Educators Overall Rank	Community Leaders Black M	Community Leaders Black F	Community Leaders White M	Community Leaders White F	Community Leaders Overall Rank	General Overall Rank
The individual. . .																
understands how technology can alter the natural and physical environment	45	44	41	44	45	58	59	59	61	59	71	74	55	71	64	52
is able to identify common goals and cooperate with others in their attainment	56	55	56	54	55	53	53	48	46	50	55	61	48	50	48	53
possesses the ability and desire to use the learning resources of the community	72	69	73	63	69	52	55	55	55	56	39	31	40	38	40	54
appreciates the beauty of nature	42	45	36	42	44	61	60	64	63	62	67	61	63	46	65	55
has the knowledge and skills to be successful in meeting his needs as a consumer of goods and services	59	56	65	61	59	49	49	51	48	48	51	61	57	47	52	56
recognizes and values creativity as a basic human need	46	51	50	55	51	73	75	67	66	69	45	42	51	39	45	57
understands human biological processes and functions	68	64	76	74	70	51	54	49	52	51	70	71	49	65	56	58
is familiar with a wide variety of occupational fields	65	63	70	66	65	57	51	56	50	54	62	61	65	61	66	59
understands the capacity of man to adjust to social and technological change	65	70	71	62	68	56	56	57	56	57	60	49	60	70	42	60
is able to act alone or to participate with others in recreational and leisure time activities	74	75	63	65	73	55	57	54	51	55	58	57	68	54	61	61

TABLE 5 - CONTINUED

Statement of Goal	Students Black M	Students Black F	Students White M	Students White F	Students Overall Rank	Educators Black M	Educators Black F	Educators White M	Educators White F	Educators Overall Rank	Community Leaders Black M	Community Leaders Black F	Community Leaders White M	Community Leaders White F	Community Leaders Overall Rank	General Overall Rank
The individual. . .																
understands the social, economic, and political implications of population growth	54	53	53	52	54	69	62	66	58	60	80	61	59	73	73	62
has a knowledge and understanding of current political issues	75	76	61	58	71	59	58	58	59	58	50	68	56	60	53	63
participates in recreational activities that can provide physical fitness throughout life	57	60	55	59	57	60	68	60	66	63	74	68	62	68	71	64
understands the judicial system	58	57	58	56	58	70	66	70	70	71	51	49	65	61	57	65
knows and understands the concepts of taxation	55	58	59	56	56	62	70	70	68	68	67	46	74	68	72	66
understands the structure and functions of local, state and national governments	67	68	64	60	64	68	68	68	65	67	48	57	52	54	51	67
appreciates the value of the occupations of others	61	67	72	73	67	66	61	65	60	61	72	57	53	50	58	68
respects the offices of appointed and elected officials	68	71	60	64	66	67	67	62	69	66	75	79	50	48	59	69
understands and values the functions, relationships and responsibilities of labor and management in a free society	63	65	62	66	63	79	76	75	77	76	64	71	58	61	63	70
has the ability and desire to participate in community service activities	62	62	65	71	62	70	78	80	79	78	56	49	75	67	67	71
has knowledge and understanding of mathematics	63	61	68	71	61	63	63	77	71	70	66	44	77	72	76	72

TABLE 5 - CONTINUED

Statement of Goal	Students Black M	Students Black F	Students White M	Students White F	Students Overall Rank	Educators Black M	Educators Black F	Educators White M	Educators White F	Educators Overall Rank	Community Leaders Black M	Community Leaders Black F	Community Leaders White M	Community Leaders White F	Community Leaders Overall Rank	General Overall Rank
The individual. . .																
is able to make constructive use of leisure time in some avocational activity	77	66	74	78	76	63	72	61	64	65	60	61	76	54	70	73
is able to identify desirable social and technological changes	76	72	65	69	74	77	74	69	73	75	64	49	61	73	69	74
und rstands the techniques to control social and technological change	71	73	69	68	71	81	77	84	76	79	78	77	80	76	80	75
has knowledge of the principle economic, social and political systems of the world	70	74	75	75	75	84	83	81	81	82	79	74	78	76	79	76
understands and appreciates the contributions of social, religious and national groups to our culture	78	61	78	77	78	78	64	70	72	72	63	61	79	73	78	77
is aware of the social, economic and political implications of technology	80	81	81	80	80	75	79	76	78	77	67	49	69	79	74	78
understands the impact of science and technology on jobs and job requirements	82	83	82	82	82	63	64	74	74	73	77	56	67	78	75	79
has an understanding and appreciation of the role of science in our society	81	80	84	81	81	73	73	73	74	74	76	80	73	81	77	80
seeks opportunities to participate in governmental processes	84	82	80	83	83	82	81	78	82	80	57	71	72	69	68	81
has knowledge, skills and a desire for life-long growth in arts areas of his choice	73	77	77	76	77	79	85	81	85	85	82	86	82	82	83	82

TABLE 5 - CONTINUED

Statement of Goal	Students Black M	Students Black F	Students White M	Students White F	Students Overall Rank	Educators Black M	Educators Black F	Educators White M	Educators White F	Educators Overall Rank	Community Leaders Black M	Community Leaders Black F	Community Leaders White M	Community Leaders White F	Community Leaders Overall Rank	General Overall Rank
The individual. . .																
has a knowledge and understanding of international relations	79	79	78	79	79	85	80	81	80	82	83	83	81	84	84	83
possesses knowledge and understanding of production, distribution and consumption of agricultural and industrial products	83	84	85	85	85	76	82	85	83	81	86	82	86	86	86	84
uses one or more of the arts or crafts in recreational and leisure time activities	86	86	86	86	86	82	84	79	84	84	84	83	83	80	82	85
possesses a knowledge of and interest in science	85	85	83	84	84	86	86	86	86	86	85	83	84	83	85	86

TABLE 6

INDICES OF THE SOCIAL SIGNIFICANCE OF DISAGREEMENT
REGARDING THE RELATIVE IMPORTANCE OF GOALS

Overall Rank of Goal	S.D. of Ranks Across Groups	Range of Ranks Across Groups	Minimum/ Maximum Ranks	Overall Rank of Goal	S.D. of Ranks Across Groups	Range of Ranks Across Groups	Minimum/ Maximum Ranks
1	4.812	13	1/14	23	8.383	25	16/41
2	3.137	11	1/12	24	12.346	35	3/38
3	7.520	25	1/26	25	11.325	33	4/37
4	5.622	18	2/20	26	6.557	18	17/35
5	4.697	15	2/17	27	7.837	22	14/36
6	4.372	13	2/15	28	17.441	45	5/50
7	9.166	29	2/31	29	8.607	27	12/39
8	5.680	21	1/22	30	6.617	19	22/41
9	5.529	20	8/28	31	8.361	30	11/41
10	13.504	43	1/44	32	10.365	27	16/43
11	14.280	40	3/43	33	10.456	28	16/44
12	12.576	37	5/42	34	6.142	19	26/45
13	19.874	46	1/47	35	15.866	47	6/53
14	9.269	36	2/38	36	10.050	27	17/44
15	11.405	34	3/37	37	14.057	37	15/52
16	6.454	23	5/28	38	15.687	40	9/49
17	11.842	38	1/39	39	13.444	40	12/52
18	9.472	38	1/39	40	9.935	30	21/51
19	8.478	30	6/36	41	9.114	36	32/68
20	12.505	36	1/37	42	11.840	35	24/59
21	7.064	24	7/31	43	22.401	77	1/78
22	10.925	35	2/37	44	9.218	31	38/69

TABLE 6 (CONTINUED)

Overall Rank of Goal	S.D. of Ranks Across Groups	Range of Ranks Across Groups	Minimum/ Maximum Ranks	Overall Rank of Goal	S.D. of Ranks Across Groups	Range of Ranks Across Groups	Minimum/ Maximum Ranks
45	15.084	48	23/71	66	8.137	28	46/74
46	9.839	32	32/64	67	7.192	20	48/68
47	3.668	11	43/54	68	7.465	23	50/73
48	25.588	69	16/85	69	9.115	31	48/79
49	14.848	48	21/69	70	7.154	21	58/79
50	20.922	62	9/71	71	9.600	31	49/80
51	7.375	29	45/74	72	8.876	33	44/77
52	11.472	33	41/74	73	7.930	24	54/78
53	4.252	15	46/61	74	7.868	28	49/77
54	14.145	42	31/73	75	4.840	16	68/84
55	10.961	31	36/67	76	4.210	14	70/84
56	6.083	18	47/65	77	7.171	18	61/79
57	12.255	36	39/75	78	9.229	32	49/81
58	10.255	27	49/76	79	8.990	27	56/83
59	6.052	20	50/70	80	4.122	11	73/84
60	6.849	22	49/71	81	8.035	27	57/84
61	8.028	24	51/75	82	4.055	13	73/86
62	8.845	28	52/80	83	2.256	7	78/85
63	7.681	26	50/76	34	2.811	10	76/86
64	5.632	19	55/74	85	2.353	7	79/86
65	7.305	21	49/70	86	1.231	3	83/86