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ABSTRACT

This study explored whether classroom teachers were involved in research, what role teachers should play in educational research, and what educational issues teachers think should be addressed in a newly restructured educational research infrastructure. The project included more than 6,000 educators nationwide with the majority in the Midwest. Data were obtained from educators in 30 of 51 states and 2 territories. In Kansas, 278 of 315 school districts were represented in the final sample of 1,688 state administrators, superintendents, principals, and classroom teachers. Conclusions from the study of educator involvement in local and national educational research are as follows: the vast majority of teachers were not contributing to the knowledge base in education through participation in research studies or in conducting studies; of all groups of educators, teachers were the least supportive of actions that would include research activities in their everyday responsibilities in the preservice training of future teachers; research should be aimed at finding effective instructional strategies, changing student variables, improving assessment methods, improving early childhood education, and helping with educational solutions to social problems. Also, most did not think the Goals 2000 could be achieved. Eight tables and six figures present the data. (Contains 18 references.) (JB)

The Role of Teachers in the Development of the National Educational Research Agenda: Is Anyone in Washington Listening?

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ABSTRACT

Teachers have assumed prominent roles in instruction, curriculum, and staff development. However, teachers typically have not held leadership roles in educational research nor in informing educational policy makers regarding those issues practitioners consider important for research. Three questions stimulated our inquiry:

1) What is the current status (activity, perceptions and attitudes) of teacher involvement in research?

2) What role should classroom teachers assume in the continued development of the education knowledge base?

3) What do educators consider to be the important educational issues that should be addressed in the newly restructured educational research infrastructure?

The project included more than 6,000 educators nationwide with the majority in the midwest. Data were obtained from educators in 30 of 51 states and 2 territories of the U. S. In Kansas, 278 of 315 school districts were represented in the final sample of 1,688 CSOs, state administrators, superintendents, principals and classroom teachers. The following conclusions were drawn from this broad-based study of educator involvement in local and national educational research:

- The vast majority of teachers are not contributing to the knowledge base in education through participation in research studies nor in the conduct of studies; of all groups of educators teachers report the greatest interest in participating in research but have the lowest interest in conducting research studies; of all groups of educators teachers report the weakest motivation to conduct research and have a significantly poorer perception of the utility, worth, and practical application of current educational research. However, educators as a whole report that release time, mentorship/training, funding, equipment and supplies, and access to statistical consulting would serve as incentives to increase their motivation to conduct research.

- Of all groups of educators teachers are least supportive of actions that would include research activities in their everyday responsibilities or in the pre-service training of future teachers;

- Sizable numbers of teachers have not typically been included in the construction of past research priorities for our nation. In the spirit of restructuring what new roles could teachers assume to assure a greater voice in the determination of those issues of national educational importance demanding a research-based solution? Forty percent of teachers believe their peers should have direct consultation with DOE/OERI in the construction of national priorities for educational research but senior level administrators (CSOs and state administrators) are less supportive of such involvement;

- Five important criteria were identified to guide a national research agenda for the newly created institutes of educational research. Sponsored research should have the potential to 1) identify/validate effective instructional strategies; 2) impact student variables (persistence, attainment, motivation); 3) improve methods of student assessment; 4) improve early childhood education/interventions; 5) contribute educational solutions/strategies for pressing social problems (AIDS, teen pregnancy, adult illiteracy, homelessness, unemployment).

- Considering the influence the national educational goals upon funding priorities for educational research this sample considered each of six national education goals (Goals 2000) to be important. However most did not believe it was likely that Goals 2000 could be achieved. This pessimism among such a broad-based cross-section of American educators calls into question the merit and value of goals that educators believe are unlikely to be achieved. The goal considered most important was "Every school in America will be free of drugs and violence and will offer a disciplined environment conducive to learning." However, educators considered this goal, above all others, to be unattainable by the year 2000. Educators consistently considered the most important goals to be unachievable.

Overall, the results suggest that these educators considered the role of the teacher in the continued development of the education knowledge base to be important both as contributors and consumers/implementors and recommended an increased role for teachers in the construction of a national research agenda. However, teachers themselves did not find much value in the results of research, had a relatively low level of motivation to conduct their own action research, and did not consider pre-service training in research to be important for future teachers. We propose future research to test the hypothesis that restructuring may saddle teachers with too many new responsibilities as well as opportunities and may contribute to a sense of frustration and role confusion. Furthermore, the historical isolation of teachers from their peers, the university, as well as from decision-makers from the district to national levels may have contributed to the perception of teachers that educational research is something someone else does and has little relevance to classroom practice nor to professional growth and empowerment. Lastly, in consideration of the current targets for educational reform (Goals 2000) and those issues that are presently influencing the federal funding patterns in educational research, educators considered each goal important for our nation's educational well-being. Educators were relatively pessimistic about the relative likelihood of achieving these goals by the year 2000. The educators suggested their top five criteria they believe to be most important for federal education agencies to consider when constructing a national research agenda for education. Federal officials would be well served by examining these criteria in their efforts to inform structural and priority decisions for the newly formed institutes of educational research.

The Role of Teachers in the Development of the National Educational Research Agenda: Is Anyone in Washington Listening?

The latest variation of educational reform encourages a re-conceptualization of the classroom teacher's role in the educational enterprise. Many local education agencies (LEA) have instituted policies and practices assuring greater teacher involvement in decision-making and policy creation. While teachers historically have been instructional leaders in their own classrooms and are now being included in building and district decision-making, they have not had an active nor expected role in educational research (practical inquiry or formal research [Richardson, 1994]), in influencing the research agenda, or in informing funding priorities at the national level of educational policy making. Research agendas have been proposed by organizations such as the National Academy of Education (1991), which is composed of an elite group of researchers and education leaders, but not elementary and secondary classroom teachers. Among their recommendations was to encourage collaboration and lasting connections between teachers and researchers. The Academy complained that only $2 million of the 1992 budget request for the OERI covered field-initiated research. They asked for more money for field-initiated studies and a greater voice for teachers in the research process (National Academy of Education, 1991). Why then are teachers noticeably absent as owners of education knowledge and beneficiaries of educational research (Apple, 1993; Ladwig, 1991)? How can teachers be included in the research agenda of our nation and contribute locally through their own action research?

The Teacher Voice at the Federal Level

A recent report (Glass, 1993) of an E-Mail dialogue, with approximately 700 educators, regarding the research priorities for OERI suggested that despite the reform efforts underway in the Clinton administration and the Department of Education, there has been a politically-driven research agenda for education with little consideration of those issues considered most important

by practitioners. Many contributors to the E-Mail dialogue noted the lack of teacher involvement in the development of a meaningful research agenda for our nation.

Only recently have teachers achieved a formal voice in national education affairs. Secretary of Education, Richard W. Riley has recently formed an independent board to facilitate the construction of a research agenda for the nation. Of the 15 educators, researchers, and other respected individuals appointed to this board only two are classroom teachers (Schnaiberg, 1995). The advisory board will guide the OERI in a systemic restructuring. The members will collectively be known as the National Educational Research Policy and Priorities Board (NERPPB) and will serve six-year terms.

Concurrent with the efforts of the NERPPB, federal legislation passed last year will decentralize the research efforts of OERI and create five institutes for educational research with the goal of making the office more 'consumer-driven.' (Viadero, 1994). Each institute will be responsible for the creation its own research agenda. This restructuring of the federal education research infrastructure may facilitate greater involvement of teachers in the construction of research priorities. While it is not clear how the NERPPB and the national institutes will coordinate their efforts it appears that national priorities for research will be set by the NERPPB and the institutes will construct a research agenda to meet these priorities. According to Kennedy (1995), the process of identifying the priorities for research centers includes regional meetings across the country to solicit advice on OERI's research focus as well as having experts generate papers detailing the issues the institutes should address. We assume that teachers will have a voice in the regional meetings held by OERI.

Teacher-Researchers

At the same time teachers are beginning to have a role in local and national decision-making regarding research carried out in our schools, there is mounting evidence that when teachers are active participants in research benefits to themselves and to their students accumulate.

Alternately, there is some disagreement about teacher motivation to be involved in local action research and what barriers and incentives exist to compel teachers to engage in their own research.

Many researchers have noted barriers to teacher involvement in formal research. Nixon (1987) suggests that one psychological barrier is subjecting their own classroom practices to the critical scrutiny of others. Kutz (1992) notes that "research seems to add another impossible demand to the already endless requirements for being a good teacher. Teacher research looks like a difficult and externally imposed task that is separate from the daily work of the classroom." Teachers, particularly those with no previous research experience, sometimes view the notion of teachers as researchers as alien, irrelevant and inconsistent with their values. They often find no connection between teacher research and classroom practice. They may view research as purely technical, formal, statistical, and impractical (Bennett, 1993).

In addition to the internal psychological barriers, there are often externally-imposed barriers, such as lack of administration respect for teacher-research, lack of support in terms of funding and release time. Administrators may view as threatening the empowered teacher-researcher. Cochran-Smith and Lytle (1990) describe an empowered teacher as "highly professionalized . . . increasingly articulate about issues of equity, hierarchy, and autonomy, and increasingly critical of the technocratic model that dominates much of school practice."

The literature demonstrates that teacher-researchers perceive significant personal and professional benefits, including increased collegiality, empowerment, improved instruction and increased self-esteem when involved with research (Bennett, 1993; Wright-Johnson, 1993). Others believe that teacher-driven research may be more valid and relevant inquiry. (Richardson, 1994). An added benefit of teacher research may be a reduction of the antagonism between practitioners and researchers (Grinder, 1981). Strickland (1988) contends that action research demystifies the research process and professionalizes teaching. Wright-Johnson (1993) calls the

reflective, collaborative process of action research "a moment without competition, refreshing and non threatening."

Concurrent with teachers being empowered to assume new roles in the management of the educational enterprise teachers are being constrained by efforts to standardize the k-12 curriculum, adopt performance standards, and respond to legislative mandates to integrate new forms of authentic assessments into their instructional strategies. In fact, teacher-research in virtually any form may accomplish greater strides in empowering teachers than will all the well-intentioned restructuring efforts. It is through the process of learning to critically appraise one's efforts, to integrate new and innovative instructional strategies, to collaborate in thoughtful inquiry, and to generate as well as consume personal and professional knowledge that teachers may find their greatest strength and voice. What is unclear is whether teachers wish to have a role in this process of knowledge generation both locally as creators and nationally as experts "testifying" to the critical issues that influence and trouble those who must go about the task of training our children to be learned citizens.

This study contributes new information to educational policy makers regarding (i) the current state of teacher-research and perceptions of the utility and value of educational research to teachers and other educators; (ii) the desirable level of involvement teachers should be afforded in current and future efforts to construct a national research agenda in education, (iii) critical issues educators in the field consider most important for further research and thus for setting national funding priorities for sponsored educational inquiry in the newly formed institutes of educational research, and (iv) an evaluation of the National Education Goals (Goals 2000) that currently have great influence in the establishment of funding priorities and that guide the present and immediate future educational research demands of DOE/OERI.

Research Questions

Three questions stimulated our inquiry:

1) What is the current status (activity, perceptions and attitudes) of teacher involvement in research?

2) What role should classroom teachers assume in the continued development of the education knowledge base?

3) What do educators consider to be the important educational issues that should be addressed in the newly restructured educational research infrastructure?

Methods

Participants

A mail survey instrument was developed for this study. The instrument was first sent to university faculty in the fall of 1993 in a nationwide sample of U. S. research universities (N=109) in 37 states. That data has been reported elsewhere (see Moore & Mercer, 1993) A second phase in 1994 included all Chief School Officers (e.g., Commissioners) in the U. S., Puerto Rico and the Commonwealth of the Marianas Islands (N=52) and state-level administrators (n=100). A third phase of the project targeted all superintendents (N=304), all principals (N=1,600), and a sample of classroom teachers (N=4,800) in Kansas during the Spring of 1994. Data from phases two and three are the focus of this report. Demographic and background information for this sample is reported in the Results section of this report.

Instrumentation

The instrument consisted of several sections measuring the following constructs, perceptions and behaviors:

1. **Participation and Interest in educational research** (i.e., have you participated in a research project in the past two years?; have you conducted a research project in the last two years?; do you have an interest in participating or conducting a research project?);

2. **Perceived barriers** and the incentive effect their removal would have on engagement in research. A sample of the resources listed for consideration included:

Please assess the following resources in terms of the incentive effect they would provide you to conduct educational research (funding support, travel support, space, equipment or supplies, release from teaching or administrative responsibilities, mentorship or training, access to a statistical consultant, etc.);

3. **Motivation to conduct research.** The specific item read: On a scale of 1 to 10, what degree of motivation do you have to conduct research?

4. **Criteria that should be used to determine federal priorities for educational research.** A sample of the 23 criteria provided includes:

Potential to improve teacher work conditions.

Potential to improve early childhood education/interventions.

Potential to develop/validate new curriculum for PreK-12 students

Potential to improve higher education.

Participants were asked to rank order (1 through 5) the five most important criteria in terms of their importance in creating a meaningful national educational research agenda.

5. Assessment of the **importance of and likelihood of achieving the National Education Goals**. Participants were presented with six national education goals (Goals 2000) and asked to rate the importance of the goal for our nation's educational well-being (scaled 1 = 'not at all important' to 10 = 'very important') and the likelihood of achieving the goal by the year 2000 (scaled 1 = 'not at all likely' to 10 = 'very likely').

6. Additionally, the ***Research Values Scale for Educators***, adapted by permission of the authors of the *Research Values Scale* (Fisher, Keilhofner & Davis, 1989), measures the research orientation of respondents as well as the perceived value and benefit derived from educational research. The scale is composed of 17 items. Three sample items are:

Classroom teachers have a professional obligation to stay informed of relevant research findings.

Conducting applied or action research in the classroom should be a component of a teacher's professional obligation.

Research is not essential for demonstrating the effectiveness of instructional methods.

Participants were asked to respond using a 5-point Likert-type scale (1 = Strongly disagree to 5 = Strongly agree). Only the scale end-points were labeled for respondents. For purposes of analysis item 11 (Classroom teachers choose to use specific instructional strategies because of personal choice, not because research indicates its effectiveness) was dropped from the scale based on recommendations from external reviewers. As such, sum-scale scores could range from 16 to 80.

7. **Demographics and background variables**. The following information was requested of participants: State of employment; school district identifier in Kansas; current position; years in current position; educational degrees held or working towards; enrollments (state, district, building, and classroom); pre-service or in-service hours of training in research, statistics, and assessment; sponsorship of staff development sessions regarding research issues (state, district, building, department); gender; and ethnicity of participant.

Reliability. The survey instrument was found to have high internal consistency reliability estimates for the maj r sections: *Research Values Scale* (standardized Cronbach's $\alpha = .90$); barriers to research engagement (standardized $\alpha = .98$); importance of the National Education Goals (standardized $\alpha = .77$); and likelihood of achieving the National Education Goals (standardized $\alpha = .89$).

Procedures

Potential participants in the states and in Kansas school districts were identified through the Kansas State Board of Education with cooperation and support from Commissioner of Education Lee Droegemueller, Ed. D, who funded the second and third sampling phase of the project. Separate surveys were sent to all CSOs and their staff, all superintendents and all principals in the state. Principals were requested to distribute surveys to a random selection of three teachers in their school. In total, 6,822 surveys were mailed to educators nationwide. The instrument was sent with a postage-paid return envelope.

Results

Survey responses were received from 1,688 educators (25%) across 30 states and territories of the U. S. Twelve CSOs replied (25%). CSOs represented Arkansas, Commonwealth of the Marianas Islands, Kansas, Maryland, Mississippi, Montana, Nebraska, Oklahoma, Puerto Rico, South Dakota, and Texas. Thirty-six (36%) state-level education staff representing 20 states replied (e.g., Assistant Commissioner (6), Deputy Superintendents (4), Directors (6), consultants, state employees, and CSO staff members (20)). One hundred sixty superintendents (53%), 571 principals (36%), and 885 classroom teachers (18%) from Kansas returned usable responses.

Sample Characteristics

Enrollment. CSOs and state administrators reported state enrollments ranging from 10,234 to 5,000,000 with a mean enrollment of 1,024,100 students (sd = 1,173,128 students). The median state enrollment reported was 640,000 and the modal enrollment was 850,000 (see **Table 1**).

Superintendents reported the district enrollment for the current school year. Enrollments ranged from 35 students to 50,000 with a mean district enrollment of 2,580 students. The sample of superintendents represented diverse sizes of districts (sd = 6,828 students). The median district

enrollment reported was 645 and the modal enrollment was 200 students. A large majority of sample participants characterized the community in which their school or school district was located as rural (79%) (see **Table 2**).

Principals in the sample represented a variety of small and large schools. The mean building enrollment was 344 students with a range of 5 to 1,800 students (sd = 255 students). The median building enrollment was 280 and the modal enrollment was 200 students.

Classroom teachers reported the number of students receiving instruction in their typical academic day. The mean number of students served by classroom teachers was 54 with a range of 1 to 692 students (sd = 55 students). The median number of students was 26 and the mode was 20.

Insert Table 1 about here

Gender and ethnicity. The sample of educators was equally balanced by gender with 50.2% male (24 participants did not report their gender). Sample characteristics stratified by the role of the participant are reported in **Table 2**. The sample was predominately white (94.3%). African-American educators represented 1.5% of the sample. Hispanic, Asian, Pacific Islanders and Native-Americans were each represented with less than 1% of the total sample. Twelve individuals characterized themselves as multiracial and 30 participants did not report their ethnic group identification.

Years in current position. This sample of educators was relatively new to their current position although the sample did represent the full spectrum of tenure from recent employees to more than 22 years in their current position. The modal response indicated that most educators had

been in their current position from 1-3 years (32%). The median response was 4-6 years (19%) with a standard deviation of approximately 7.5 years.

Level of current position. The majority of educators reported the level of their professional assignment at the prekindergarten to fifth grade level (35%). Sixteen percent were at the middle school level and 22% were assigned to the senior high level (9-12). Twenty-seven percent said they were at the administrative level and 14% did not provide information. Further analyses indicated that many principals were unclear whether to respond according to their position or the grade levels of students served at their school. Sixty percent of principals indicated grade levels.

Post-secondary education completed. The modal post-secondary education reported by the sample was a Masters degree with 15 or more post-graduate hours. One-quarter of the sample had not completed a Masters degree and ten percent had completed doctoral training. Greater detail can be found in **Table 2**.

Insert Table 2 about here

Training in Research

Hours of training. Educators were asked to indicate how much coursework (pre-service, in-service, or graduate) they have received in research, testing, and statistics topics. The mean number of hours of research topics was 7.0 (sd = 6.9 hours) with 29% having received more than 7 hours and 40% having had 3 or fewer hours (mdn = 6, mode = 3). Roughly 1% had received no training in research.

When hours of research training were compared across roles using one-way analysis of variance procedures with Scheffe post-hoc comparisons significant differences in hours of research training were found ($F_{4,1171} = 35.46$; $p \leq .0001$). CSOs (11.5), state administrators

(17.2), and superintendents (9.5) had significantly more training than teachers (5.7). Teachers and principals did not significantly differ in the number of hours of research training received.

Comparisons among educators for the number of hours of statistics training indicated significant differences (grand mean = 4.5 hours; ($F_{4,1002} = 53.34$; $p \leq .0001$). Again, the pattern of increased training as one moves further away from direct classroom activity was found with state administrators (mean = 11.2) having significantly more hours of training than all other educators in the sample. While teachers (3.7) and principals (4.2) did not significantly differ in their training hours, other differences were observed among teachers and superintendents, CSOs, and state administrators.

Staff development activities. With the recent restructuring efforts underway nationwide we expected to observe large numbers of educators reporting staff development activities in research skills or topics. Roughly 40% of the participants reported having attended or sponsored staff development in research topics. Of those reporting attendance at these activities, 42% participated in state-sponsored activities; 51% participated in district-level activities, 45% participated in school-based staff development; and 9% were involved in department-based activities.

Participation and Conduct of Research

Research participation. Of the 1,688 educators in the sample 651 (40%) had participated (subject, consultant, advisor) in a research study sometime during the last two years. Of these participants, the mean number of studies was 2.8 (sd = 3.2) with a modal participation rate of 1 study in the last two years. For the 60% who had not participated, 40% of these educators were interested in participating in future research efforts. Of the 40% who reported an interest in participating in research, teachers were the dominant group with 44% of teachers indicating an interest. All other groups of educators reported significantly lower rates of interest in participating ($\chi^2 = 95.42$; $p \leq .0001$)

When actual participation rates were examined across roles significant differences were found ($\chi^2 = 155.1$; $p \leq .0001$). All groups of administrators had a rate of participation between 45%-60% with CSOs reporting a 81% rate of involvement as a research participant. Twenty-six percent of classroom teachers had participated in a research study in the past two years (see **Figure1**).

Conduct of research. Fourteen percent of the educators had actually conducted, either alone or collaboratively, a research study in the past two years. These educator-researchers had conducted as many as 12 studies with a mean rate of one study in the past two years. Sixty-three percent conducted one study; 16% conducted two studies; 5% conducted three studies; and 16% conducted four or more studies during the past two years. Of the 86% who had not conducted a study 14% were interested in being a research investigator on a project. Again, when interest was examined across roles those educators furthest from actual student instruction were the most interested in conducting research with CSOs and state administrators reporting the greatest interest (40% were interested). Sixteen percent of teachers reported an interest in conducting a research study in the future ($\chi^2 = 86.65$; $p \leq .0001$)

When the involvement of educators as generators of knowledge through research was examined across roles significant differences were found ($\chi^2 = 101.1$; $p \leq .0001$). More than 50% of the CSOs and state administrators had conducted a research study in the past two years. Approximately 20% of superintendents and principals had been engaged in research. Alternately, just 9% of teachers had conducted their own research during the past two years (see **Figure 1**).

Insert Figure 1 about here

Perceptions of the Utility and Worth of Educational Research

Scale scores obtained from the *Research Values Scale for Educators* (RVS) were approximately normally distributed with a mean of 54.6 (sd = 11.07) and a range of 16-80 (see **Figure 2**). Using analysis of covariance procedures controlling for gender, ethnicity, level of motivation to conduct research, and years in current position, RVS scale scores were compared for differences due to role of educator. Overall, as a measure of research orientation and perceptions of the utility and worth of educational research, RVS scale scores were found to differ significantly across educators ($F_{4,1534} = 15.69$; $p \leq .001$) (see **Figure 3**). Adjusted scale scores for CSOs (56.85), state administrators (55.99), superintendents (57.76), principals (57.59), and teachers (52.38) were compared using Scheffe's Multiple Range Tests. Significant differences were found between teachers and superintendents and teachers and principals.

Insert Figures 2 and 3 about here

In order to test RVS item level differences among educators a multivariate analysis of covariance was conducted using the same covariates as those noted earlier. The multivariate test of significance found significant differences between roles (see **Table 3**). Of 17 items included on the RVS, 12 were found to have significant role-based differences. For each of the 12 significant items, teachers, compared to the other educators, had the lowest levels of agreement with the item. Items that were reverse coded for analysis are labeled with an asterisk and have been stated in the positive for clarity. Teachers were least supportive as compared to other educators of the following practices:

A. Use of Research

- Use research to demonstrate effectiveness to increase respect for educators (item 2)

- Use classroom techniques only supported by research (item 3)
- Public and private school educators should conduct research (item 10)*

B. Research as part of professional role

- Applied or action research as part of teacher's job description (item 5)
- Research is essential for demonstrating effectiveness of instruction (item 6)*
- Teachers should be expected to apply or implement information from the research literature into classroom practice (item 14)

C. Training in research skills

- Pre-service education should include a research competency (item 7)
- Pre-service education should include a statistics competency (item 8)
- Pre-service education should include an assessment competency (item 9)

D. Importance to the profession

- To be socially valued profession education needs a strong program of research (item 13)
- Teacher professional associations waste resources on research activities (item 15)
- Most published educational research is of great value to classroom issues (item 17)*

Insert Table 3 about here

Educators' Motivation to Conduct Research

Motivation by role. Classroom teachers, compared to other educators in the sample, reported the least motivation to conduct educational research. Analysis of covariance, controlling for years in current position, found significant differences for level of motivation between

educators ($F_{3,1520} = 39.16$; $p \leq .001$). Adjusted means indicated a familiar pattern of decreasing motivation from CSOs to classroom teachers (see **Figure 4**). On a scale from 1 (9%) to 10 (3%) the mean level of motivation to conduct research was 5.2 (sd = 2.5, mdn, mo = 5.0) with CSOs and state administrators (7.2, 7.1 respectively) reporting the strongest motivation and teachers reporting the weakest motivation (4.7). Scheffe post-hoc pairwise comparisons indicated that teachers had significantly lower motivation to conduct research than all other educators in the sample.

Insert Figure 4 about here

While gender of educator was not a factor in this investigation, prior descriptive analyses suggested that motivation may differ across genders. We decided to descriptively explore this possibility (see **Figure 5**). The results indicate a potential gender by role interaction with males having slightly lower motivation than females. This pattern was not true for state administrators and classroom teachers where both genders were equally motivated. However, these conclusions were not statistically tested and are included only as a potential research focus for future efforts to understand motivation to conduct research.

Incentive value of resources to conduct research. A series of descriptive and linear regression analyses were conducted to better understand the importance of resources as incentives to conduct educational research (see **Table 4**). Ten resources were listed for participants. For each resource the participant was asked to indicate what effect the provision of the resource would have upon their motivation to conduct research (scaled 1 = 'no effect' to 5 = 'strong effect'). Teachers' relative importance rankings indicated that 'release from teaching/administrative responsibilities to do research' had the strongest effect on motivation (4.3). This was followed by 'mentorship and

training to develop research skills' (4.1), 'funding support to conduct research' (4.0), 'equipment or supplies' (4.0), and 'access to a statistical consultant at no cost' (4.0). All educators in the analysis, including CSO's considered release time from teaching/administrative responsibilities to be an important resource to encourage research.

Insert Table 4 about here

Differences among educators in resource needs. To determine if the relative importance of resources differed across educators a multivariate analysis of variance was conducted. The overall test was significant (Hotellings T = .06; F = 2.38; $p \leq .000$; $1\text{-}\beta = 1.0$). Univariate follow-up tests indicated that only 'equipment or supplies' was significantly different across roles of educators. A priori reverse Helmerts contrasts indicated that all contrasts were significant with teachers and principals reporting the most importance and CSOs indicating less importance for this resource as an incentive to conduct research (see **Table 4**).

Predicting motivation to conduct research based on resource incentives. Using multiple linear regression we tested the predictive value of each resource as an incentive to conduct research. Two separate models were tested (all educators and just classroom teachers). When all educators were in the stepwise model covarying for role, years in current position, gender, ethnicity, and Research Values Scale scores, four resources were found to be significant predictors of motivation to conduct research (see **Table 5**). Unstandardized regression coefficients (b weights) indicated that 'funding support' ($\beta = .55$), 'research staff available for consultant without cost' ($\beta = .26$), 'equipment or supplies' ($\beta = .16$), and 'release from teaching/administrative responsibilities' ($\beta = .17$) were each significant predictors of increased motivation to conduct research. Model fit indices

suggested that these four significant predictors and covariates explained 40% of the variance in motivation to conduct research.

Insert Table 5 about here

Using only classroom teachers the same model was tested. Multiple regression analysis found one significant predictor beyond the predictive value of the covariates (see **Table 6**). 'Funding support to conduct research' ($\beta = .36$) was the single most important predictor of increased motivation to conduct educational research for classroom teachers. The regression model accounted for 44% of the variance in motivation.

Insert Table 6 about here

Level of Involvement of Teachers in the Construction of a National Research Agenda

To answer the question: "How can classroom teachers contribute to the dialogue regarding the most pressing educational issues of their times?" we asked participants to identify the most desirable role for teachers in the construction of a national research agenda. Participants were presented with eight specific options:

- No formal involvement
- Input through NEA, AFT representatives
- Teacher membership on local and regional or topical committees
- Teacher membership on national education task forces
- Teacher membership on governmental policy-recommending committees

- Teacher leadership/chair of local, regional, and national task forces
- Teacher leadership/chair of governmental policy-recommending committees
- Direct consultation with DOE/OERI/executive branch representatives

Approximately 40% of all educators in this sample believed that classroom teachers *should have* 'direct consultation with DOE/OERI/executive branch representatives' by providing expert opinion and guidance concerning the construction of a national research agenda. Conversely, only 3% believed teachers should have 'no formal involvement.' Four percent considered 'input through NEA and AFT' to be sufficient involvement for teachers. Alternately, 27% believed teachers should have the opportunity to 'chair governmental policy-recommending committees' and 'chair local, regional, and national task forces.' Twenty-seven percent believed it most desirable for teachers to have 'membership on committees, task forces, or policy-recommending committees.

When we looked at who said teachers should have 'direct consultation' we found that 95% were principals and teachers. Only 17% of the CSOs and 29% of the superintendents considered this a desirable role for classroom teachers while 34% of the principals and 43% of the teachers were in favor of 'direct consultation' for classroom teachers (see **Figure 6**).

Insert Figure 6 about here

Criteria to Construct a National Educational Research Agenda

Considering the minimal voice teachers have been afforded in the construction of a national research agenda, we asked educators to select 5 criteria from a list of 23 and rank order each as their top five criteria to guide the construction of a national research agenda in education (1=most important) (see **Table 7**). The criteria or topics were derived from a review of the current literature

in education. The relative rank ordering of the frequency in which topics were identified as one of the five most important suggested the following critical topics to guide funding priorities at the national level and serve as central themes for the new institutes of educational research:

1) Potential to identify/validate effective instructional strategies;

2) Potential to impact student variables (persistence, attainment, motivation);

3) Potential to improve methods of student assessment;

4) Potential to improve early childhood education/interventions;

5) Potential to contribute educational solutions/strategies for pressing social problems (AIDS, teen pregnancy, adult illiteracy, homelessness, unemployment).

When we examined the mean rank assigned to each of the 23 criteria all but one topic listed above (potential to improve methods of student assessment) emerged as the most important to educators. Two additional criteria were added to the list above: potential to develop/validate a new prek-12 curriculum, and potential to redefine the philosophy of public school education (see **Table 7**). An examination of the relative rank order of the 23 criteria indicate considerable consistency among educators with unanimous agreement on the inclusion of two criteria in the top five:

- Potential to develop/validate a new prek-12 curriculum;
- Potential to contribute educational solutions/strategies for pressing social problems.

Four other criteria had the support of three of four groups of educators (see **Table 7**).

Insert Table 7 about here

Evaluation of the National Education Goals

Of the six national education goals passed into law by Congress (Goals 2000), educators considered each to be important (means ranged from 7.9 to 10 on a 1 to 10 scale) (see **Table 8**). Conversely, this sample did not believe it was likely that these six goals could be achieved by the year 2000 (means ranged from 2.9 to 6.1 on a 10-point scale).

Insert Table 8 about here

The goal considered most important was "Every school in America will be free of drugs and violence and will offer a disciplined environment conducive to learning." The goal considered least important by our sample of educators was: 'U. S. students will be the first in the world in science and mathematics achievement.'

Consistently, those goals considered most important were the ones perceived to be the least likely to be achieved. Few significant differences were found in terms of the importance or likelihood of success based on the role of the respondent (principal, teacher, etc.). In all cases CSOs were more optimistic about the chances of achieving each goal by the year 2000 and, with few exceptions considered the goals to be more important than did other educators. Surprisingly, superintendents were the most pessimistic about achieving Goals 2000.

Discussion

Central to understanding the results of this study is the context in which educators are providing services to children. The current restructuring of the public educational system has created new opportunities for teachers to construct innovative methods of service delivery. Many teachers are involved in changing the way schools organize for education, how schools are

managed, and how the school can become a more efficient and effective delivery system. Teachers are being included in district and building level policy creation and thus serving a wider constituency with a broader range of responsibilities and skill load. Clearly, for many teachers the responsibilities of being a teacher have changed. Teachers are considering the implications of professional change within the restructured school. Concurrent with the wider range of opportunity for teachers to shape and control the "business" of education is an equally strong inversely related loss of control over what is taught , how it is taught, and how we assess the products of our efforts. Performance standards, standardized curricula, large-scale mandated assessments, each with some degree of governmental oversight or impetus have contributed to an incremental reduction in the voice of the teacher as the historical leader and decision-maker in his or her own classroom. Nixon (1987) describes precisely this context in which teacher research is critical to professional growth and empowerment in the face of declining autonomy in the classroom:

> . . . at a time when increasing demands are being made on teachers, in terms of professional expertise and commitment, their control over what is taught and how is gradually, but deliberately, being whittled away be central government education policies. In the face of this contradiction there is an overriding need for teachers to define their role in the research process as both participatory and critical . . . Teachers can not afford to leave the critical analysis of the emergent agenda to their political masters. They need to define for themselves a role which is instrumental in the formulation of priorities and the articulation of values" (p. 31).

The results of this study speak to a significant lack of teacher involvement both in the contribution to educational knowledge as a participant, as a creator of knowledge, and as an informant or expert in the identification of critical issues needing systematic inquiry. Potentially more costly is the broader implication that without teachers as participants and creators practical

application of research to instructional and curricular problems is reduced. Teachers rely on fads, folklore, and false assumptions about the effectiveness of their efforts as they attempt to meet the challenge of a increasingly diverse and challenging population of at-risk, disabled, ESL, and other included children who are mandated by legislative act to be educated in the regular education classroom. Consequently, teachers refuse to use the research literature to inform classroom decisions and report a sense of distance from what is important to researchers. The fact that so few of the educators in this sample were actually involved in the creation of knowledge during the past two years suggests that educational research may lack authenticity, credibility, and practical applicability. Certainly, the teachers in this study would support this conclusion when so few found value or utility in educational research.

Perhaps it should be comforting that the new national institutes for research are closely aligned with the criteria this sample of educators considered critically important for future educational research. The National Institute on Student Achievement, Curriculum, and Assessment will probably address criteria #3 (Potential to improve methods of student assessment), and #2 (Potential to impact student variables: persistence, attainment, motivation). The National Institute on the Education of At-Risk Students may consider criteria #5 (Potential to contribute educational solutions/strategies for pressing social problems: AIDS, teen pregnancy, adult illiteracy, homelessness, unemployment). The National Institute on Early Childhood Development and Education will likely respond to criteria #4 (Potential to improve early childhood education/interventions). We believe the concurrence between the basic thrust of the institutes and the criteria our educators identified provides strong evidence to support the belief that practitioners have a valid perspective of the important issues needing attention from educational researchers. More telling to us is the realization that within the context of a politically charged arena the OERI advisors were able to identify what appear to be important missions for the newly formed institutes. It remains to be seen what the actual agenda of each will contain. It also remains to be

seen how involved classroom teachers will be in the agenda creation. The fact that the NERPPB is composed of only two classroom teachers appears to suggest that OERI may not benefit from a diverse classroom-based perspective of the issues confronting practitioners.

While educators considered Goals 2000 to be important systemic outcomes of education, these individuals who must implement strategies to achieve the goals on a daily basis are pessimistic about the likelihood of success. This finding does not minimize the importance of the goals but it does raise a question about the advisability of funding research to address these goals when the field is unconvinced of the potential for success. The issue becomes, what purpose do the goals serve if the field does not believe they can be achieved?

Most educators in this sample advocate for an increased role for teachers in the construction of national research priorities with a sizable proportion calling for direct consultation with federal education agencies. While these teachers may not wish to conduct research at this time they have a strong desire to participate in knowledge generation both locally and nationally.

This study is important because it provides evidence that teachers have very little investment in virtually all aspects of educational research, from consumption of research, training and skills development, administrative support, resource availability, to participation on a local level and providing guidance at the federal level. It is not surprising then to expect teachers to have little enthusiasm for the teacher-researcher role. In fact, Bennett (1993) found that for those teachers who did conduct research, they did not perceive it as a permanent role. They attributed the lack of district and administrator support, lack of journals, no recognition, and lack of funding to attend conferences as critical barriers. The behaviors and attitudes of teachers in the current study suggest a lack of motivation to conduct research, and a generalized dissatisfaction with the current published products of educational researchers. These findings support the notion that a persistent chasm exists between practitioner and researcher (National Academy of Education, 1991) that has not, as yet, been bridged by innovative models of collaborative action research (Calhoun, 1993).

In other professions, research serves as a hope or promise of devising new strategies, solutions to problems, and a better understanding of how and why events occur. The implicit message of these educators is: research offers us very little. The National Academy of Education (1991) tends to support the notion that research may not be able to facilitate educational change, "The research base is underfunded, limited in focus, and lacks connection to what happens in classrooms. Research studies tend to short-term and conducted in isolation" (p. 20).

Lastly, the five criteria suggested by the educators appear to fit within the missions of the national institutes of research and reflect reasoned and important criteria for determining the merit and worth of future educational research efforts. Using these five criteria as priorities for funding would be an important progression toward including teachers as an equal partner in the process of generating knowledge for the education community at large.

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Table 1

Participant Demographics: Reported Enrollments

Enrollment	Mean	Median	Mode	SD
Teacher Ave. Daily Contact	54	26	20	55
Building	344	280	200	255
District	2,580	645	200	6,828
State	1.024 mil	640,000	850,000	1.17 mil

Table 2

Sample Characteristics and Background (Proportion reporting)

Variable Category	CSOs (n=12)	State Administrators (n=36)	Superintendents (n=160)	Principals (n=571)	Teachers (n=885)
Gender					
Female	.42	.42	.09	.22	.75
Male	.58	.58	.91	.78	.25
Ethnic group identification					
African-American	.00	.03	.00	.03	.01
White	.83	.86	.98	.95	.97
Asian-American	.00	.00	.00	.002	.00
Hispanic-American	.08	.08	.00	.01	.01
Native American	.00	.00	.00	.01	.01
Pacific Islander	.08	.00	.00	.00	.00
Bi-/Multi-racial	.00	.03	.03	.004	.01
Years in current position					
1-3	.58	.39	.51	.42	.21
4-6	.17	.08	.19	.21	.18
7-9	.00	.17	.13	.11	.12
10-12	.17	.22	.05	.07	.11
13-15	.00	.00	.05	.05	.11
16-18	.08	.03	.05	.04	.09
19-21	.00	.03	.01	.04	.06
22 or more	.00	.08	.01	.06	.14
Rural or urban district					
Rural			.95	.76	.80
Urban			.05	.24	.20
Level of Position					
Prek-5				.33	.51
6-8				.14	.21
9-12				.21	.28
Administrative	100.00	100.00	100.00	.40	.001
Post-Secondary education					
BA, BS	.00	.00	.00	.00	.13
BA, BS + 15[a]	.00	.00	.00	.02	.36
MA, MS	.08	.10	.00	.23	.15
MA, MS + 15[a]	.33	.30	.57	.58	.32
PhD, EdD	.33	.30	.14	.04	.00
PhD, EdD +postdoc	.25	.02	.03	.03	.004
Ed. Specialist	.00	.00	.02	.10	.03

Notes: Proportions may not total to 1.0 because of rounding error.

[a] Hours of graduate coursework beyond degree.

Table 3

Perceptions of Educators Regarding Teacher Involvement in Research

Research Values Scale Item	CSOs	Superintendents	Principals	Teachers	Sig
1. Classroom teachers have a professional obligation to stay informed of relevant research.	4.2	4.4	4.3	4.2	.09
2. Educators could command greater respect if they would demonstrate the effectiveness of their methods through experimental research.	3.4	3.5	3.5	3.3	.00*
3. Ideally, classroom practice should include only techniques and methods supported by research.	2.8	3.2	3.2	2.7	.00*
4. Experienced classroom teachers should be included in DOE/OERI grant reviews.	3.7	4.0	4.1	4.0	.53
5. Conducting applied or action research in the classroom should be a component of a teacher's professional responsibilities.	3.2	3.2	3.3	3.0	.00*
6. Research activity is not essential for demonstrating the effectiveness of instruction.	3.5	3.2	3.2	2.8	.00*
7. Teacher pre-service education curriculum should include a research competency.	3.5	3.6	3.6	3.2	.00*
8. Teacher pre-service education curriculum should include a statistics competency.	3.4	3.5	3.5	3.1	.00*
9. Teacher pre-service education curriculum should include a testing competency.	3.9	4.2	4.2	3.9	.00*
10. Public and private school educators should not be involved in conducting research.	4.2	4.2	3.9	3.8	.00*
11. Classroom teachers chose to use specific instructional strategies because of personal choice, not because research indicates its effectiveness.	3.2	3.7	3.6	3.6	.33
12. Classroom teachers should be leading the effort to set the national priorities for educational research.	3.8	3.7	3.8	3.7	.44
13. To be considered a socially valued profession, education must have a program of research.	4.0	3.9	3.8	3.5	.00*
14. Teachers should be expected to apply or implement information from the research literature into their classroom practice.	3.9	3.8	3.8	3.2	.00*
15. Teacher professional associations waste valuable resources on research activities.	3.6	3.7	3.7	3.5	.00*
16. Teacher staff development should include periodic instruction of how to conduct applied research in the classroom.	3.4	3.3	3.5	3.4	.17
17. Most published educational research is of little value to the everyday issues in the classroom.	3.2	3.5	3.4	3.8	.01*

Notes: (Hotellings T = .13; Approx. F = 3.56; $p \leq .000$). Item 11 was not included in sum scores. Figures reported are adjusted means. Covariates were gender, years in current position, and motivation to conduct research. * Significant univariate follow-up at $p \leq .05$.

Table 4

The Incentive Value of Resources to Conduct Educational Research by Role of Educator

Resource	CSOs n=12	Superintendents n=152	Principals n=546	Teachers n=861
A. Funding support	3.9 (2)	4.1 (1) *	4.1 (2)	4.0 (3)
B. Travel support	3.6	3.6	3.8	3.8
C. Research staff consultation	4.0 (1) *	4.0 (2)	4.0 (3)	3.9
D. Access to editorial assistance	3.4	3.6	3.7	3.6
E. Space	3.2	3.3	3.5	3.6
F. Equipment or supplies [a]	2.9	3.8 (3)	4.0 (3)	4.0 (3)
G. Access to computer at no cost	3.6	3.8 (3)	4.0 (3)	4.0 (3)
H. Release time	3.8 (3)	4.1 (1) *	4.3 (1) *	4.3 (1) *
I. Mentorship or training	3.6	4.0 (2)	4.1 (2)	4.1 (2)
J. Access to statistical consultant at no cost	3.5	4.1 (1) *	4.0 (3)	4.0 (3)

Notes: Relative rank ordering within role is in ( ). * indicates the resource(s) contributing the greatest incentive to conduct educational research. Multivariate test of differences between roles was significant (Hotellings T =.06; F = 2.38; $p \leq .000$; $1-\beta = 1.0$)

[a] Significant univariate difference between roles: F = 4.79; $p \leq .003$; $1-\beta = .90$. A priori reverse Helmerts contrasts were each significant (Superintendents vs CSOs: $p \leq .012$; Principals vs Superintendents + CSOs: $p \leq .001$; Teachers vs Principals+Superintendents+CSOs: $p \leq .000$).

Table 5

Regression Model of the Incentive Value of Resources to Conduct Educational Research (All Educators)

(Block) Variable	Beta	B	SE B	95% CI	Sig
Covariates (all in model)					
(1) Role of Educator[a]	-.05	-.17	.08	-.34 to -.01	.03*
(1) Years in Current Position[b]	-.11	-.12	.02	-.16 to -.08	.00*
(1) Gender[c]	-.03	-.13	.11	-.35 to .10	.27
(1) Ethnicity[d]	.02	.08	.09	-.09 to .24	.38
(2) Research Values Scale[e]	.20	.05	.005	.04 to .06	.00*
Predictors (Signif. only)					
(3) Funding Support[f]	.26	.55	.07	.41 to .69	.00*
(3) Research Staff for Consultation[f]	.12	.26	.08	.11 to .41	.00*
(3) Equipment or Supplies[f]	.08	.16	.07	.03 to .30	.02*
(3) Release time from Teaching or Administration[f]	.08	.17	.06	.05 to .28	.01*
Constant		-.80	.46	-1.7 to .10	.08

Notes: $R^2 = .42$, Adj. $R^2 = .40$, SE = 1.9; $F_{9,1,470} = 111.81$; $p \leq .0001$. * $p \leq .05$.

a 1= CSO, 2=State Employee, 3=Superintendent, 4=Principal, 5=Teacher

b 1=1-3, 2=4-6, 3=7-9, 4=10-12, 5=13-15, 6=16-18, 7=19-21, 8=22 or more

c 1=Male, 2=Female

d 1=African American, 2=White, 3=Asian, 4=Hispanic, 5=Native American, 6= Pacific Islander

e 16 items coded 1='Strongly Disagree' to 5='Strongly Agree' (Range 16-80)

f Coded 1='No effect on motivation to conduct research' to 5='Strong effect on motivation to conduct research'

Table 6

Regression Model of the Incentive Value of Resources to Conduct Educational Research (ClassroomTeachers Only)

(Block) Variable	Beta	B	SE B	95% CI	Sig
Covariates					
(1) Level[a]	.07	.19	.09	.02 to .37	.03*
(1) Years in Current Position[b]	-.12	-.12	.03	-.18 to -.07	.00*
(1) Gender[c]	-.02	-.11	.18	-.47 to .25	.56
(1) Ethnicity[d]	.01	.03	.14	-.24 to .30	.82
(2) Research Values Scale[e]	.22	.05	.007	.04 to .06	.00*
Predictors					
(3) Funding Support[f]	.19	.36	.11	.14 to .58	.00*
(3) Travel Support[f]	-.01	-.02	.11	-.24 to .19	.82
(3) Research staff for consultation[f]	.06	.11	.13	-.13 to .36	.36
(3) Editorial Assistance[f]	.07	.14	.13	-.12 to .40	.30
(3) Space[f]	.00	.005	.11	-.22 to .23	.97
(3) Equipment or supplies[f]	.08	.15	.13	-.11 to .40	.26
(3) Computer facilities[f]	.01	.02	.10	-.18 to .22	.83
(3) Release from teaching responsibilities[f]	.07	.12	.10	-.07 to .31	.21
(3) Mentorship and training[f]	.05	.08	.11	-.14 to .31	.46
(3) Statistical consulting[f]	.07	.14	.12	-.09 to .36	.24
Constant		-1.88	.63	-3.1 to -.64	.003

Notes: $R^2 = .45$, Adj. $R^2 = .44$, SE = 1.83; $F_{15,695} = 37.88$; $p \leq .0001$.

a 1= Prek-5, 2=6-8, 3=9-12

b 1=1-3, 2=4-6, 3=7-9, 4=10-12, 5=13-15, 6=16-18, 7=19-21, 8=22 or more

c 1=Male, 2=Female

d 1=African American, 2=White, 3=Asian, 4=Hispanic, 5=Native American, 6= Pacific Islander

e 16 items coded 1='Strongly Disagree' to 5='Strongly Agree' (Range 16-80)

f Coded 1='No effect on motivation to conduct research' to 5='Strong effect on motivation to conduct research'

Table 7

Educators' Ratings of the Top Five Criteria to Determine the Emphasis of the National Educational Research Agenda and Funding Priorities

	Criterion	Frequency	All Cases	CSOs	Super-intendents	Principals	Teachers	Sig
	Potential to . . .							
A	Develop/validate new Pre-k-12 curriculum	368	**2.71 (4)**	**2.67[c] (4)**	**2.63 (4)**	**2.72 (3)**	**2.72 (4)**	.99
B	Understand contextual features of learning	261	2.97	**2.20[c] (1)**	2.87	2.90	3.05	.24
C	Contribute educational solutions for pressing social problems	**489 (5)**	**2.44 (1)**	**3.00[c] (5)**	**2.64 (5)**	**2.56 (1)**	**2.37 (1)**	.62
D	Greater understand cognitive processes of learning	257	2.90	**2.67[c] (4)**	3.00	2.89	2.94	.73
E	Improve methods of student assessment	**553 (3)**	2.93	3.40[c]	2.75	2.86	3.02	.49
F	Improve methods of teacher evaluation	181	3.47	a	3.32	3.35	3.71	.34
G	Redefine public school philosophy	252	**2.65 (3)**	a	**2.02 (2)**	**2.73 (4)**	**2.75 (5)**	.13
H	Restructure the management/organization of schools	375	2.92	**2.50[c] (3)**	2.88	**2.81 (5)**	2.97	.64
I	Create of a more equitable system of education for minorities	102	3.08	2.00[b]	**2.00 (1)**	3.07	3.16	.26
J	Identify/validate effective instructional strategies	**766 (1)**	**2.57 (2)**	**2.33[c] (2)**	2.27	**2.56 (1)**	**2.67 (3)**	.16
K	Improve educational service to students with disabilities	56	3.09	4.00[b]	2.50[c]	2.93	3.19	.62
L	Improve teacher work conditions	266	3.17	a	3.13	3.23	3.14	.77
M	Provide linkage for collaboration of community and school	457	3.34	4.00[c]	3.11	3.51	3.27	.24
N	Better understand the context of education	178	3.22	a	3.04	3.47	3.05	.17
O	Improve early childhood education/interventions	**546 (4)**	**2.65 (3)**	**3.00[c] (5)**	2.91	**2.64 (2)**	**2.61 (2)**	.66
P	Understand the role of teacher characteristics in student outcomes	332	3.37	2.33[b]	3.52	3.34	3.42	.27
Q	Redefine the role of local, state, and national government in education	235	3.23	4.00[c]	3.13	3.25	3.29	.22
R	Integrate and disseminate existing knowledge of education	151	3.09	2.00[b]	3.06	3.07	3.13	.95
S	Improve higher education	138	3.45	3.75	3.93	3.76	3.27	.24
T	Impact student variables (persistance, motivation)	**622 (2)**	**2.80 (5)**	**3.00[c] (5)**	**2.55 (3)**	2.92	**2.75 (5)**	.38
U	Improve vocational and career training for students at all levels	366	3.17	a	3.00	3.33	3.15	.30
V	Suggest improved methods of teacher education	445	3.47	3.75[c]	3.47	3.48	3.46	.95
W	Suggest improved indicators of educational attainment	179	3.56	4.00[c]	3.00	3.59	3.77	.08

Notes: 1= most important; [a] Respondents did not select as one of top 5 criteria; [b] 1 respondent; [c] Less than 6 respondents

Table 8

Educators' Perceptions of the Importance and Likelihood of Achieving the National Education Goals by the Year 2000

Goal		CSOs	Superintendents	Principals	Teachers	Signif
All children in America will start school ready to learn.						
	Importance[a]‡	9.83	9.05	8.81	8.76	.06
	Likelihood[b]•	4.14	3.48	3.50	3.77	.10
The high school graduation rate will increase to at least 90 percent						
	Importance[a]‡	8.41	8.66	8.68	8.86	.17
	Likelihood[b]•†	6.13	4.24	4.27	4.35	.04*
American students will leave grades 4, 8, 12 having demonstrated competency in English, mathematics, science, history, geography; every school will ensure that all students learn to use their minds well, to be prepared for responsible citizenship, further learning, and productive employment.						
	Importance[a]‡	9.21	8.98	8.86	8.94	.56
	Likelihood[b]•	5.03	4.03	4.30	4.22	.30
U.S. students will be the first in the world in science and mathematics achievement						
	Importance[a]‡	8.04	8.01	8.09	7.92	.48
	Likelihood[b]•	4.43	3.71	3.88	3.75	.49
Every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship.						
	Importance[a]‡	9.71	9.04	9.03	9.21	.03*
	Likelihood[b]•	4.29	3.25	3.41	3.52	.26
Every school in America will be free of drugs & violence and will offer a disciplined environment for learning.						
	Importance[a]‡	10.00	9.59	9.60	9.71	.03*
	Likelihood[b]•	3.88	2.93	3.10	2.99	.39

Notes: a Scaled from 1= 'not at all important' to 10= 'very important'; Figures reported are adjusted means.
b Scaled from 1= 'not at all likely' to 10= 'very likely'; Figures reported are adjusted means.
‡ Significant multivariate test: Hotellings T = .03; Approx. F = 2.30; $p \leq .001$; * Significant univariate followup: $p \leq .05$
• Significant multivariate test: Hotellings T = .02; Approx. F = 1.63; $p \leq .045$; * Significant univariate followup: $p \leq .05$
† All reverse Helmerts contrasts significant ($p \leq .05$): 2vs1; 3vs2+1; 4vs 3+2+1

Figure 1. Rate of involvement of educators in educational research

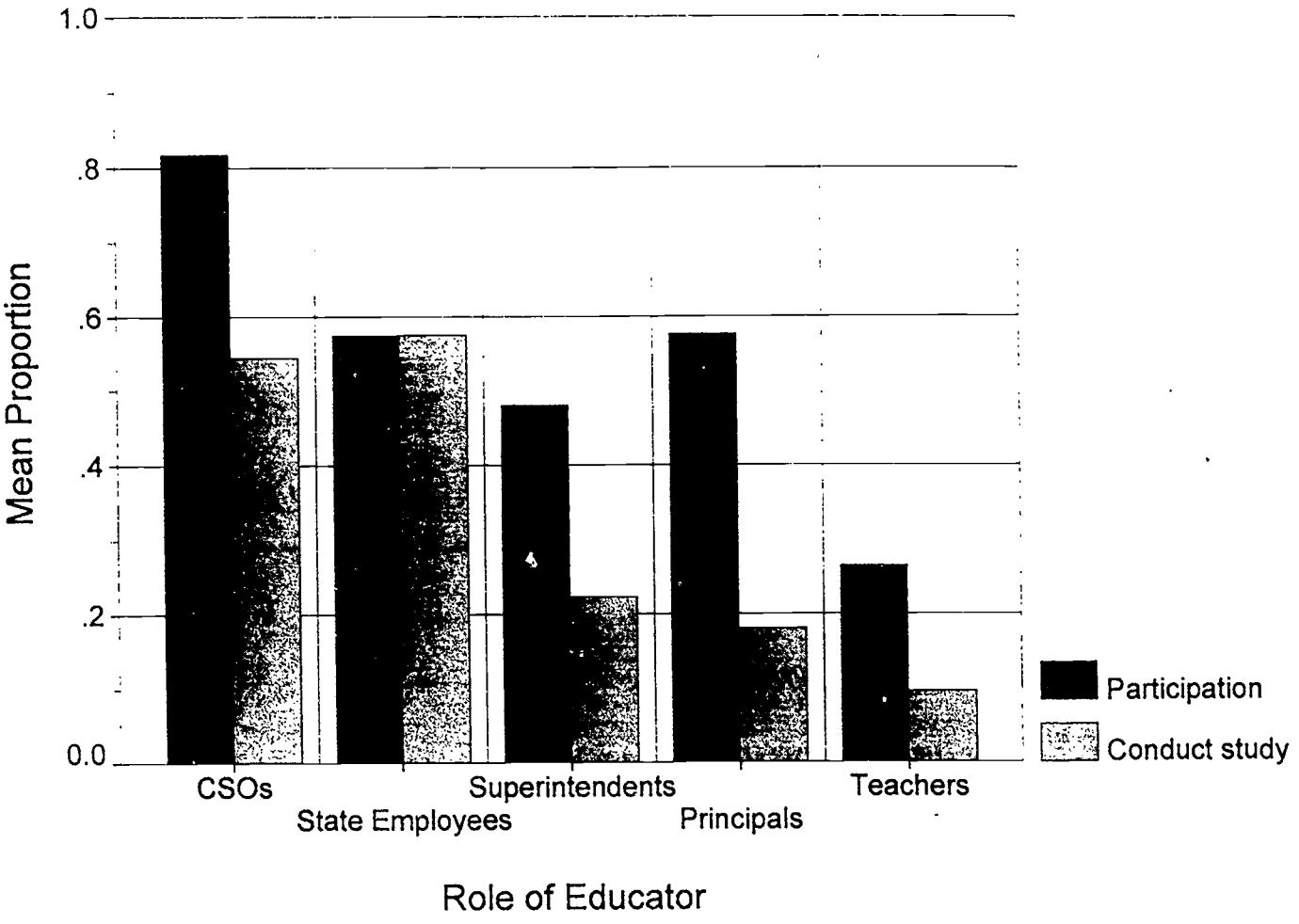


Figure 2 Research Values Scale for Educators:

Scale score distribution

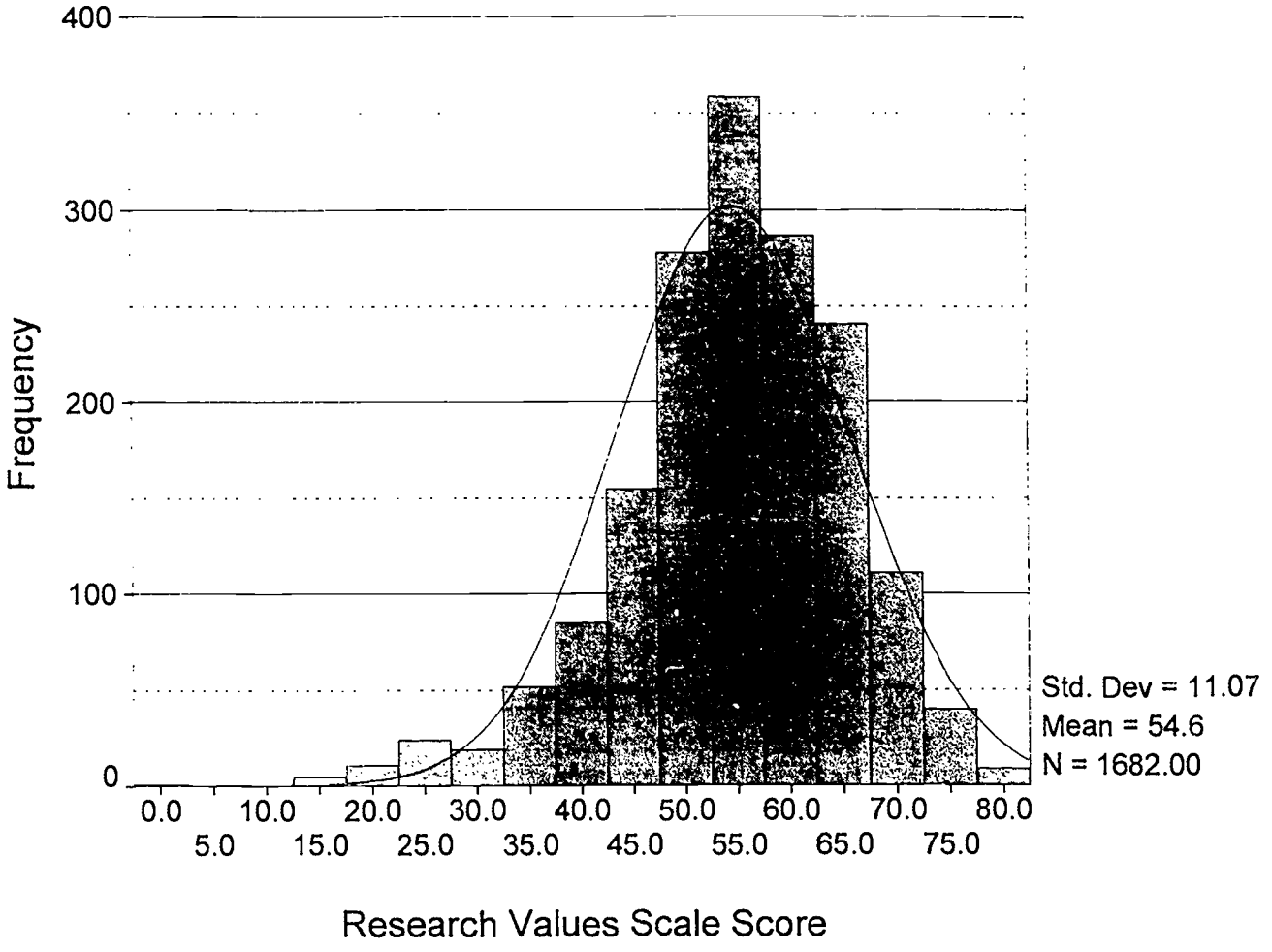


Figure 3. Value of research by role of educator

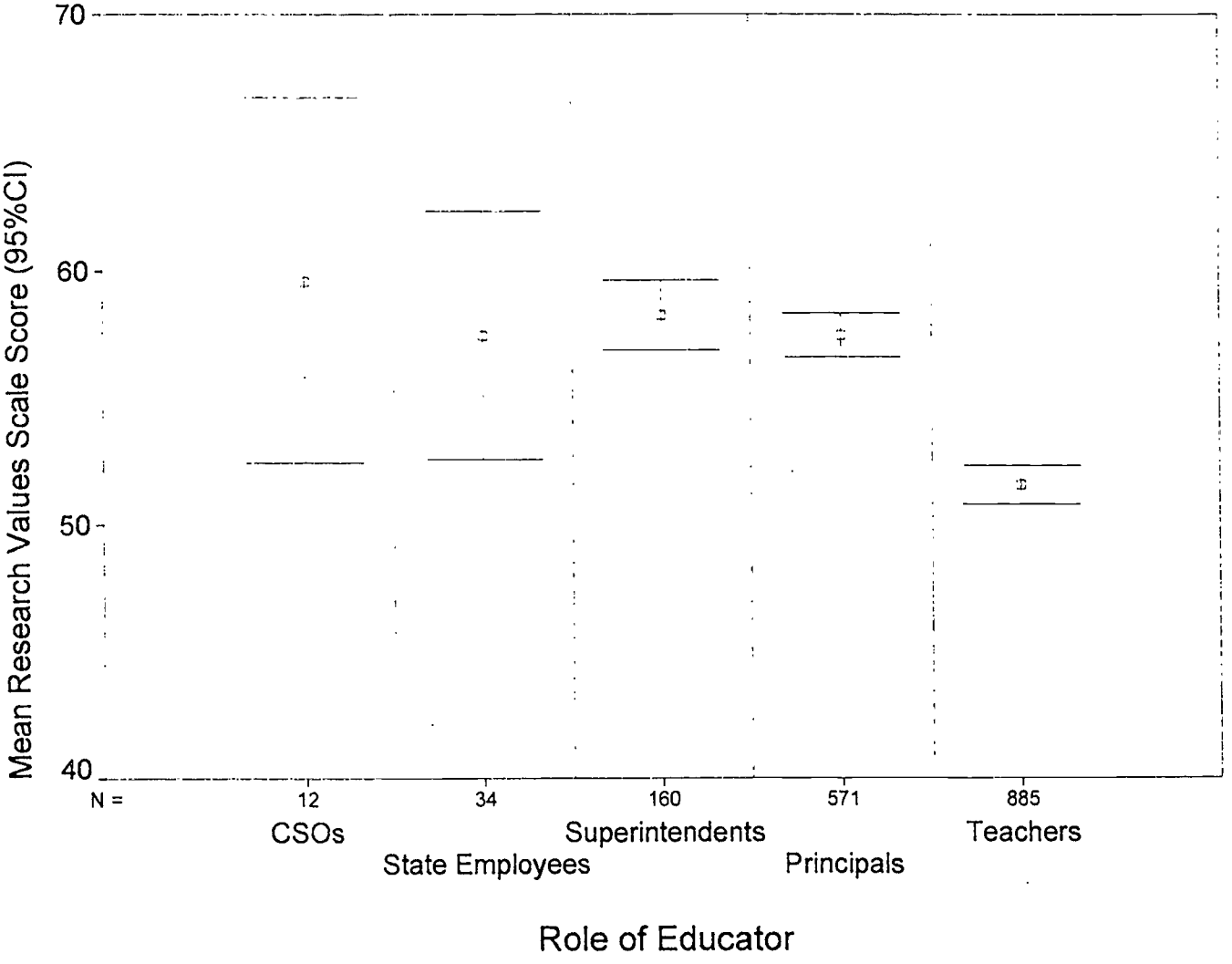
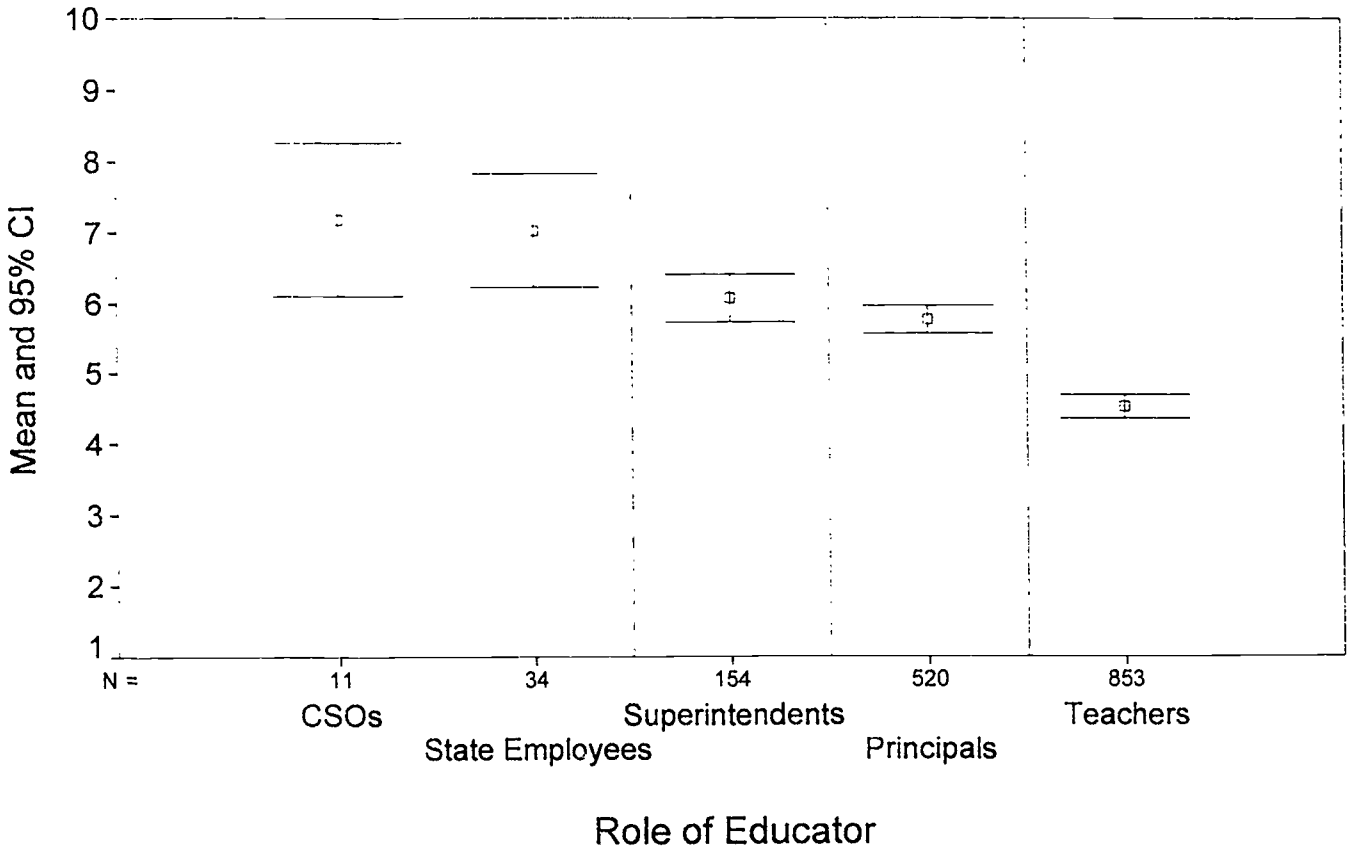


Figure 4. Self-reported level of motivation to conduct educational research



Note: Scaled 1=no motivation to 10=strong motivation

Figure 5. Self-reported level of motivation to conduct educational research: Role and gender comparisons

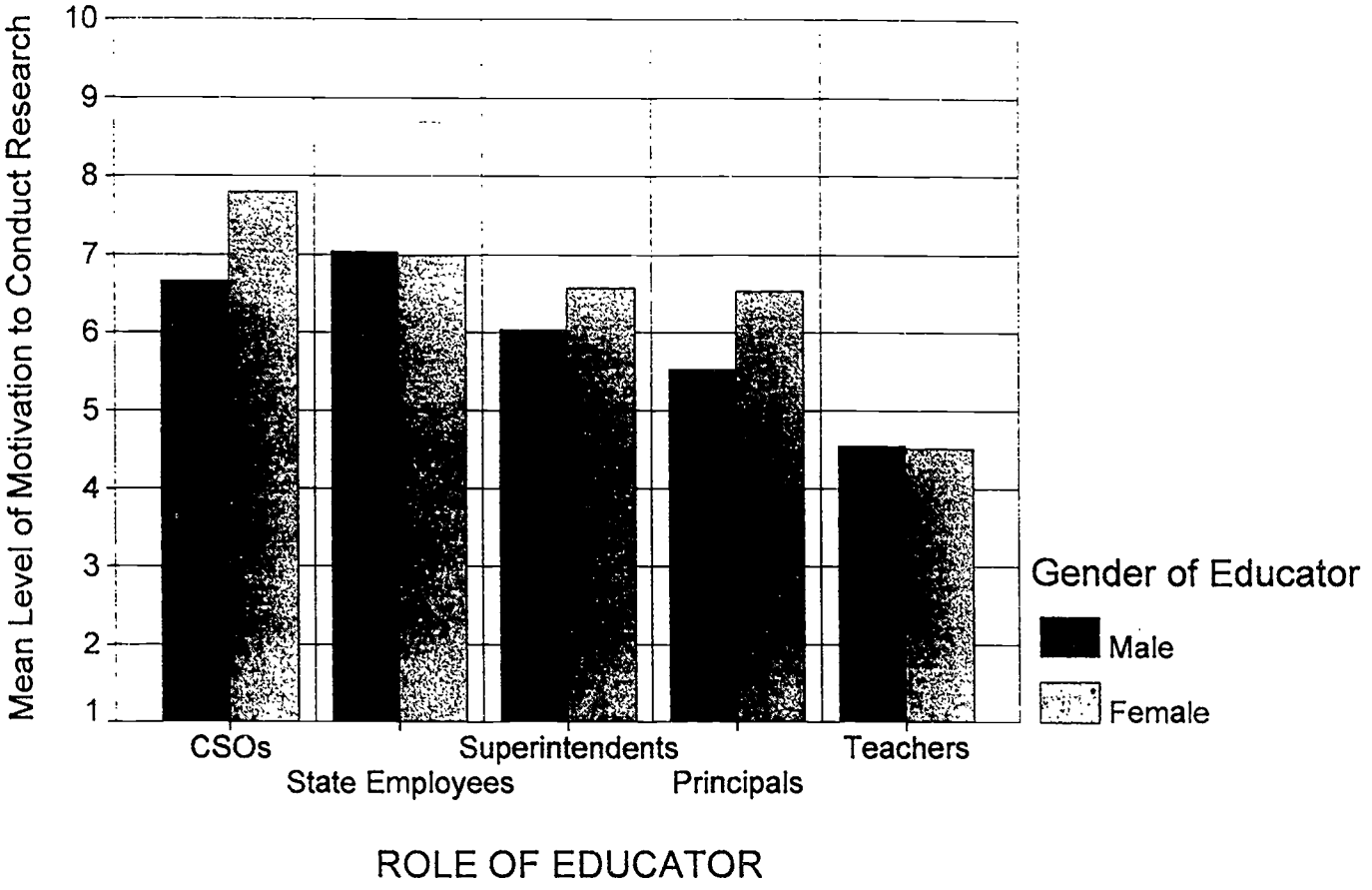


Figure 6. Desired role for classroom teachers in the construction of a national educational research agenda