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ABSTRACT

This report describes two studies prompted by research on rates of research use and attitudes toward research among preservice and inservice teachers enrolled in graduate programs in teacher education. The first study asked prospective and inservice teachers to rate the importance of various research skills and to provide a verbal exposition that justified their assigned ratings. In a follow-up study, an opportunity was created for inservice and preservice teachers to share their perspectives and opinions on the importance, relevance, and application of research skills and knowledge to teaching. The initial study included 167 students at various points of their preservice and inservice graduate teacher education programs; most were in a Master of Arts in Teaching program. The follow-up study involved nine preservice and three inservice discussion groups. For the initial study, a 3-part survey was developed that investigated participants' personal research skills and experiences, perceived advantages and disadvantages of research training, and descriptions of actual research experiences. Findings indicated that the most important reasons given for learning research skills was the ability to use the library and the ability to critically analyze professional literature. The least important reasons selected were publication of research findings in professional literature and knowledge of how to compute and interpret intermediate or advanced statistics. Follow-up study results were similar. Most subjects viewed research as a source for current information related to teaching practices and as a way of dealing with practical, day-to-day classroom issues. (Contains 23 references.) (NAV)

Students' Perceptions of the Research Component in Master's Level Teacher Education Programs

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Students' Perceptions of the Research Component in Master's Level Teacher Education Programs

A majority of advanced degree programs in teacher education contain a research and/or statistical methods component. Both educational theorists and educational practitioners have viewed research as a core survival skill for teachers that is conceptually and practically relevant for classroom practice. A reflection of this concern may be seen in recent efforts by various member groups within the American Educational Research Association to develop guidelines for graduate research courses (e.g., SIG/Professors of Educational Research, 1995 AERA Annual Meeting).

The preparation of teacher-researchers has typically focused on helping teachers to acquire two types of skills: Research consumption skills, and research production skills. The term research consumer is defined by Adams (1976) to mean "the educator as a reader, interpreter, synthesizer, and utilizer of research" (p. 2). Adams identified a set of cognitive and affective skills which teachers should possess in order to become competent consumers of research.

Alternatively, research production skills refer to the ability of teacher-researchers to design and implement an original research study. These research production activities may be carried out by individual teachers, by collaborative teams of teachers, or by collaborative teams of teachers and university faculty. Kincheloe (1991) argued for a more active role for teachers as producers of research. He suggested that teachers should engage in research activities to improve the quality of instruction (which should encompass both students' intellectual and social growth), and to promote professional development by increasing collegial sharing of research results.

Teaching research skills to preservice and inservice teachers has the potential to promote three goals: (a) critical evaluation of educational theory, (b) improving practice in individual classrooms and within the school as a system, and (c) promoting and maintaining high standards of

professionalism amongst teachers. Each of these goals may be achieved through consumer-oriented and/or producer-oriented knowledge and skills.

A number of educational theorists have examined the issue of helping teachers to acquire the first goal, that of acquiring a critical stance towards educational theory. Griffin (1984) stated that teachers who acquired research skills were in a position to critically analyze educational research in order to identify its strengths and weaknesses. Gage and Berliner (1989) advocated preparing teacher-researchers who could think critically, practically, and artistically about research relationships in order to promote their technical competence in understanding educational concepts, theory, and methods. Brause and Mayher (1991) highlighted the importance of critical evaluation of research by teachers in the following statement: "One of our professional responsibilities is to critically evaluate information, not to accept it on blind faith" (p. 46). The potential outcome of accepting educational theory on blind faith is noted by Nath and Tellez (1995): "Students who do not question become teachers who do not question" (p. 4). All of these insights concerning the role of critical evaluation of research fall under the category of consumer-oriented skills.

The goal of critically evaluating research literature related to teaching is prerequisite to the second goal, that of improving practice in individual classrooms and within the school as a system. This link is well-articulated by Mayher (1991), who stated:

> My major purpose ... is to try to explode one of the prevalent misconceptions that severely limits the possibilities of change in schools: the belief that theory, and research based on theory, have no direct relevance to pedagogical problems and that what is really needed are practical answers to the question: What can I do on Monday? I am going to argue that: What can I do on Monday? is always answered on the basis of theory. The problem, I will argue, is not that theory and research are not practical, but that we have built our practice on unexamined theories and inapplicable research. (p. 4)

In recent years, there has been increasing emphasis on the teacher-as-researcher and on classroom action research. In concert with this trend, the Holmes Report advocated yet another role for classroom teachers: That of change agents within the school system as a whole. Additionally, an increasing number of collaborative partnerships have been formed between school-based practitioners and university-based researchers. In the case of collaborative partnerships, the classroom teacher is considered an equal partner in the research endeavor.

What, then, is action research? As summarized by McKernan, action research may be defined as "a form of self-reflective problem solving which enables practitioners to better understand and solve pressing problems in social settings", and which "invites the practitioner to improve his performance through studying his work" (1987; quoted in Nath & Tellez, 1995, p. 1). Action research may be performed within the context of a single classroom, or within the larger organizational unit of the school (Calhoun, 1994). The importance of teachers becoming involved in performing action research in their own classrooms is expressed by Oberg and McCutcheon (1990):

> The teacher-as researcher movement is based on teachers' liberating themselves from ideas solely imposed by others outside the classroom. In a sense, it constitutes an acknowledgement that teaching belongs to teachers and that as the experts about their own practice, teachers are the ones most able to understand and refine their work. One method of doing this is to do research about one's own practice. (p. 142)

Griffin (1984) argued that teachers who possessed research skills increased their options for knowing about and implementing a variety of teaching techniques. He suggested that research-trained teachers were able to develop a technical core of effective classroom behaviors, and could engage in questioning and reflection that led to redirection or modification of teaching practice. Gage and Berliner (1989) stated that teachers who acquired research skills gained the ability to integrate research into real-world contexts in ways that produced useful applications of basic research findings to teaching. It is clear from this discussion that the goal of improving classroom practice

involves both consumer-oriented and producer-oriented research knowledge and skills.

The third goal, that of increasing teacher professionalism, has been addressed by Green and Kvidahl (1990), who stated that "scholarship is held to be an essential element of good teaching; teacher educators without a commitment to scholarship contribute to education's second class status" (p. 2). An even stronger point of view was expressed by Hopkins, who argued that "by taking a research stance, the teacher is engaged not only in a meaningful professional development activity but also engaged in a process of refining, and becoming more autonomous in, professional judgement" (p. 3). Similarly, Gable and Rogers (1987) argued that "the desire and ability to seek answers to puzzling questions - i.e., the desire and ability to do research - is an essential attribute of the professional teacher in the Eighties and beyond" (p. 695).

Instructors of research methods courses are most likely to include both consumer and producer skills in their research courses. This is evident when experts are asked about the ideal content and skills that should comprise these courses. For instance, Todd and Reece (1989) conducted a Delphi study in which a national panel of educational research experts identified a list of 59 essential or important skills and concepts that included items from research theory and concepts (consumer-oriented skills), and quantitative and qualitative analytical methods (production-oriented skills). This list was subsequently endorsed by a group of teacher-educators who routinely taught educational research courses (Todd & Reece, 1990).

While educational experts provide much-needed input into the process of specifying the content and evaluating the relevance of research courses in teacher education, students who are enrolled in these courses should also contribute insights to these processes. Student input is important because research skill and content information that is viewed as being difficult to master, hard to implement, and/or irrelevant to the teaching process is unlikely to be utilized by teachers in classrooms.

It is encouraging to note that in general, teachers view the acquisition of research skills as an asset to practice. Todd and Reece (1987) surveyed teachers who had taken a master's level research course between 1980 and 1985, finding that the course was perceived to be most helpful in providing familiarity with research terminology and in developing the background needed to critically evaluate research reports. Similarly, in a study conducted by Green and Kvidahl (1990), teachers stated that they had found a research course both useful and desirable. Baker and Huffman (1981) found that 83% of a sample of 105 primary, middle school, and secondary teachers found research findings on teaching helpful, while 74% of this sample made efforts to utilize research on teaching in their own teaching. Bennett (1993) found that experienced teacher-researchers reported that their research activities increased their collegiality, sense of empowerment, and self-esteem. One of Bennett's experienced teacher-researchers summarized the benefits of research training as follows:

> I have gained a new respect for research in education. I am more aware of current trends and the need for reform. I now identify problems with more confidence and apply more logical analysis to problems. I now read research-related literature when attempting to solve a problem. I am more objective and confident. I talk less and observe more. My salary has increased, and I have been asked to do several workshops. (p. 69)

However, valuing the acquisition of research skills does not guarantee either the regular use of research reports or the production of original research by teachers. Fleming (1988), Rackliffe (1988), and Green and Kvidahl (1990) all reported that teachers generally felt inadequately prepared to either understand or conduct research, despite the fact that a proportion of teachers surveyed had completed research methods coursework. Bennett found that teachers who had no previous teaching experience viewed research as being irrelevant for effective classroom practice.

In Green and Kvidahl's sample (1990), practicing teachers were found to review research literature about once a year, to rarely conduct a research study of their own, and to "almost never" present their research at a

professional conference. In fact, Green and Kvidahl reported that most teachers holding advanced degrees had not produced any research beyond the research project required by their advanced degree program. Nevertheless, it was encouraging to note that teachers who had completed a research methods course were significantly more likely to conduct a review of the literature, engage in research, present their research, and hold positive attitudes towards research than were teachers who had not completed such a course.

Baker and Huffman (1981) reported that inservice programs were perceived by 88% of the teachers in their survey to be one of the least effective forums for disseminating research findings. Moreover, teachers did not feel that inservice programs should be modified to include more dissemination of research on teaching. However, teachers did report obtaining research about teaching from two alternative sources: graduate programs in education, and professional journal articles.

These reportedly low rates of research use by teachers has caused concern within the educational community. In response to this finding, a number of academicians have generated suggestions for helping inservice teachers to be informed consumers and competent producers of educational research (Gable & Rogers, 1987; Gage & Berliner, 1989; Kaplan, 1976; Lanier & Glassberg, 1981; Zahorik, 1984). These reportedly low rates of research use and teachers' informal comments regarding the perceived difficulty and/or irrelevancy of research methods courses, coupled with teachers' reports of valuing research skills and attempting to implement research findings in their classrooms lent impetus to the present study.

Purpose

A primary objective of the initial study focused on asking individual prospective and practicing teachers who were currently enrolled in graduate education programs to rate the importance of various research skills, and to provide a verbal exposition that justified their assigned ratings. This objective was useful in identifying specific research skills and concepts that were valued by graduate students enrolled in teacher education programs.

The main objective of the follow-up study was to create an opportunity for inservice and preservice students to share their perspectives and opinions about the importance, relevance, and application of research skills and knowledge to teaching. Using the discussion group format for data collection allowed the students an opportunity to discuss, debate, and arrive at a group consensus concerning these issues. Using different formats to explore the same issues provided us with an indication of the validity of our findings.

Methods

Participants. Survey data were collected in an initial study and a follow-up study. The initial study included 167 students who were at various points in their preservice and inservice graduate teacher education programs at a small midwestern university that trains large numbers of teachers. A majority of survey respondents were enrolled in a Masters of Arts in Teaching (M.A.T.) program, and typically chose to take research courses either at the beginning of their coursework or after completing their certification courses. Data were collected at various points during the academic term. The follow-up study involved nine preservice and three inservice discussion groups. All groups (with the exception of one inservice "group" of one participant) had three to four respondents.

Instruments. The survey used in the initial study included three parts. Part A contained 13 items related to different types of research skills and experiences, which were rated using a 5-point Likert scale, ranging from very important (5 points) to not important (1 point) (see Table 1). For each item, students were asked to provide a narrative explanation to justify their assigned rating. This format allowed quantitative and qualitative data to be integrated and synthesized to yield a more complete understanding of respondents' perceptions. Part B asked the respondents to list the advantages and/or disadvantages research training had for practicing teachers, and Part C asked them to describe their research experience.

As previously mentioned, several researchers have distinguished between research-consumer and research-producer skills (e.g., Adams, 1976; Kincheloe,

1991). Consequently, our survey was designed to reflect this distinction (see Table 1.)

Questions 1, 2, and 3 were considered by the authors to represent research consumer skills. Questions 4, 5, 7, 8, 9, 10, 11, and 12 were considered by the authors to represent research producer skills. Question 6 represented both consumer and producer skills. Question 13, which asked respondents to list other skills not specified by the researchers, has not been analyzed to date. All of the 12 skills included in the survey represent skills which form major components of the current research education courses at the university where the study was conducted. It should be noted that a majority of these skills have been included on lists of core research competencies for teachers found in the research literature on this topic (for example, Todd & Reece, 1989, 1990).

The survey used in the follow-up study included four open-ended questions which asked the students the following: (a) Research courses are included in every teacher education program around the country. Do you think it is a good idea? Please explain your answer. (b) What is most useful for teachers to learn about research? Why? (c) What is least useful for teachers to learn about research? Why? and (d) Do you think you would use research articles or skills in any way when you are teaching? If so, how?

Procedure. In the initial study, the surveys were distributed in classes taught by the authors. Students were given time in class to complete the surveys. They were assured that these surveys would not be counted toward their course grade, and measures were taken to guarantee anonymity of response. In the follow-up study, the surveys were distributed in two research methods classes (which were not taught by the researchers), with students being allotted 20-25 minutes to discuss, achieve consensus, and summarize their thoughts in writing.

Results and Discussion

Initial study. Students rated two consumer-oriented skills, "The ability to use the library" (mean=4.63, SD=0.77) and "The ability to critically analyze professional literature" (mean=4.12, SD=0.96) as being the

two most important research skills for teachers to acquire from research methods courses. The low standard deviations of these two skill ratings indicate a fairly high level of consensus among the respondents (see Table 2).

Two production-oriented skills, "Publication of research findings in the professional literature" (mean=2.72, SD=1.32) and "Knowledge of how to compute and interpret intermediate or advanced statistics" (mean=2.57, SD=1.12) were rated as least important for teachers to acquire from research methods courses. The higher standard deviations of these two skill ratings point to a lower level of consensus, compared with the first two skills reported (see Table 2).

Qualitative data generated by respondents' written explanations for their numerical ratings of each of the 12 research skills are illuminating. Reasons supporting the importance of learning to use library resources may be classified into four different categories. Students described knowledge of library resources as being important for: (a) informing teaching ("As a teacher, you need to be able to find an article or articles on a given topic in order to gain insights or help you in a problem you may be having"; "Allows teachers or future teachers background for more easily finding information which may enhance their practice"); (b) acquiring basic skills that facilitate current and future coursework at the university ("The ability to use library resources is the key to the entire process of discovering, verifying, and understanding research materials"; "Most papers demand library research and the more understanding [one has] of how to access information, the easier it will be"); (c) acquiring on-line computer skills that enable respondents to stay current with information contained on computerized information systems technology ("Since so many libraries are moving to computer based systems, this is essential knowledge for all teachers. It is essential that [teachers] know how to access information and can teach their students the same"); and (d) achieving efficiency ("If you don't know what you're doing, you can spend a lifetime in the library without getting anywhere"). Reasons supporting the importance of being able to critically analyze professional literature may be classified into four categories: (a) informing teaching ("Allows

teachers/future teachers to judge the worthiness of utilizing in practice the information they might find"; "One should be able to sift through all the literature out there to find information that is truly meaningful to one's work and has been properly substantiated"); (b) discriminating sound from unsound research ("We have to be able to separate legitimate material from that which is not reliable"; "This skill is needed in order to form an objective opinion about the latest trends and developments") (c) keeping current in one's field ("These represent state-of-the-art studies and very up-to-date information. To keep ahead of the game, I suppose this is important for all of us"), and (d) facilitating current and future coursework at the university ("This was required in several classes, so learning how to do it correctly is important").

Conversely, respondents' reasons for judging publication of research findings in the professional literature to be least important for teachers converge on two reasons. One was a failure to see publication of research as part of the role and responsibilities of the classroom teacher. Comments reflective of this skill as being role-inappropriate include the following: "I never used it [research publication skills] in my teaching so far"; "Only [important] if you want to be an administrator or college professor"; "It is a nice perk but not at all necessary for a teacher".

The other reason involved viewing publication of research in professional journals as being appropriate for advanced students, but inappropriate for Master's level students ("Only [important] if post-Master's degree is sought").

The interpretation of advanced statistics was judged to be similarly role-inappropriate, and similarly unimportant. Comments included "Useless for real-world hands-on teachers"; "Not crucial for elementary-level teaching"; "Unless a person is entering research fields I doubt this would be used often in 'real life'"; and "Only for administrators--teachers very seldom have time".

In summary, the explanations of the ratings provided by the respondents revealed that those skills rated the highest were perceived as important

because of two main reasons: (a) they were deemed necessary for students' future or present teaching, and (b) they were perceived to provide a knowledge base for subsequent skills.

Finally, it should be noted that although two consumer-oriented research skills emerged as most important and two producer-oriented research skills were deemed to be least important, there was no distinct tendency for consumer-oriented research skills to be rated as being more important for teachers than production-oriented skills.

Part B of the survey asked respondents what advantages and/or disadvantages research training in general had for practicing teachers. Of the 143 responses analyzed, 107 (75%) listed only advantages, 12 (8%) listed only disadvantages, 21 (15%) listed both advantages and disadvantages, and 3 (2%) indicated that they could not respond to the question. Cited advantages confirmed the reasons previously given for justifying the value of specific consumer-oriented research skills. Specifically, research training was perceived to be an aid to:

1. Classroom practice ("when we have a problem in the classroom it is good to know how and where to find answers to our problems"; "Research training gives the practicing teacher the advantage of being able to quickly and clearly obtain and interpret information needed to help students learn efficiently").

2. Evaluating the quality of student work ("Use for grading and figuring out percentages and how the class compared to each other"; "Advantages are that one is able to relate statistics reported on children more readily to parents and have a better understanding of test results his or herself").

3. Keeping abreast of current, state-of-the-art developments ("Methodologies are constantly changing in the world of teaching. In order to keep up to date on things, research is a pertinent means of doing so"; "Keeps you interested and in-tune to changes/problems/advances in areas that may not be new but [may be] present").

4. Professional growth ("Being able to analyze, compare research, write a proposal and perhaps conduct a small-scale study is what separates master teachers from just certified teachers. Using the information you learn from above in your teaching approach, directly or indirectly, is what makes you a professional"; "To be at the cutting edge of what's going on and to be able to implement findings into the classroom. Teachers in this country complain about their low status yet are generally not current on research findings and aren't involved in conducting research").

5. Critically evaluating research findings ("If teachers are able to read and analyze a study, they are less likely to interpret articles in terms of their own personal prejudices. I find I am reading articles more objectively and with a more open mind").

As before, disadvantages cited included (a) lack of time to engage in either consumer or producer research activities within the teaching day ("Research training has many advantages for the practicing teacher, however, once the teacher gets out in the field she does not have time to do any research"); and (b) viewing research as being largely irrelevant to the teaching education program ("[Research training takes] time away from practice-teaching, which I think deserves more hours"; "The disadvantage is that teachers who are teaching elementary classes can't see the importance of the material and how it directly relates to classroom teaching"; "For a practicing teacher, their education would be better spent in other classes").

The final portion of the survey asked respondents about the amount and types of research in which they had ever been involved. Regarding amount, the level of experience ranged from "very little" to "research for term papers" to "extensive research experience" (reported by respondents who had been Psychology and Sociology majors in their undergraduate programs). Types of research cited included library literature searches, term papers, undergraduate and graduate research studies, theses conducted at the undergraduate level, marketing research, medical research, and historical research. It is clear that students' definitions of research was quite variable, ranging from sitting in the library and writing a literature review

on a given topic as a class assignment to conducting formal studies which involved advanced statistical analysis techniques.

Follow-up study. The results obtained in the follow-up study paralleled to a large extent the results obtained in the initial study in a number of ways. In both studies, the students thought that it was important for teachers to posses research skills. The skills they found most relevant were consumer-oriented skills which would allow them to apply research findings to their own classroom situations. Typical comments included: "Research articles are a great way to refer back to ideas and concepts should something come up in class that you may need more info on.", and "Research articles can be a great tool for advocating ideas that are not popular or that you as a teacher may be having difficulties getting across to other people. Anything documented means it is most likely important and verifiable especially when published."

Those research skills that students found least relevant included producer-oriented skills that involved teachers in the design and implementation of quantitative and/or experimental research. Since many research methods courses in teacher education programs are placing greater emphasis on qualitative research paradigms, there may be a corresponding rise in the perceived relevance of qualitative paradigms to teachers. The slight bias against quantitative research paradigms noted in our study may be attributable to a course instructor who placed a stronger emphasis on qualitative research paradigms as opposed to quantitative paradigms. This may have influenced the trend observed in our follow-up study. However, it should be noted that a majority of respondents perceived both consumer-oriented and producer-oriented research knowledge and skills to be of value to practicing teachers.

Regarding the perceived use of research articles or skills in teaching, a majority of respondents stated that they saw research as a source for current information related to teaching practices, and as a way of dealing with practical, day-to-day classroom issues.

Conclusions

Our respondents' viewpoint that the acquisition of research skills is important because research informs teaching practice is consistent with Griffin's (1984) statement that teachers view research training as a vehicle for helping them to develop and implement a variety of teaching techniques. It also lends support to Adams' (1976) contention that teachers should use research to inform best practice in teaching, and that research should be viewed as a tool for helping to solve local educational problems and in assisting with practical educational decisions. Additionally, it agrees with Kincheloe's (1991) idea that research skills help teachers to improve the quality of instruction and to identify programs and practices which promote the maximal growth of students, and with Eaker and Huffman's study (1981), which found that most practicing teachers in their sample attempted to utilize research on teaching in their own teaching. Finally, it mirrors Oberg and McCutcheon (1990), who noted that the possession of research skills is liberating for teachers because it places them in charge of their own practice.

Respondents' statements about the importance of research skills that allow teachers to discriminate between sound and unsound research agrees with Griffin's (1984) suggestion that possession of critical analysis skills allows teachers to identify the strengths and weaknesses of educational research. It also supports Gage and Berliner's (1989) contention that teachers who acquire research skills are able to think critically and practically about research relationships, Adams' (1976) statement that attaining research skills allows teachers to judge the relative merit of competing research findings, and Todd and Reece's (1987) finding that students viewed their research methods course as a helpful vehicle for developing the background needed to critically evaluate research reports and as a means to acquire familiarity with research terminology. Brause and Mayher also highlight the need for teachers to critically evaluate research findings as opposed to accepting information "on blind faith" (1991, p. 46). Finally, Nath and Tellez (1995) and Mayher (1991) note the importance of teachers having the critical analysis skills to

evaluate research in ways that make it useful and meaningful for their teaching practice.

Respondents' valuation of research consumer skills as a method of staying current with professional developments in education reflects Adams' (1976) concern that teachers should develop a sense of professional responsibility that involves keeping current with pertinent information and knowledge in one's field.

Respondents' concern with acquiring research skills as a step in the process of professional growth was addressed by Kincheloe (1991), who suggests that a relevant goal of research training for teachers is to help them cultivate a view of the workplace as a place of learning. It was also highlighted by Johnson (1993), who cites the teacher-researcher collaborative group at her intermediate school as a forum for sharing teaching problems, generating research questions, presenting and critiquing members' research, and disseminating teacher-generated research findings to other teachers on a local and national level. Research as a professional growth opportunity was also mentioned by approximately 10% of Bennett's subjects (1993). This minority stated that their administrators demonstrated a strong interest in educational research, encouraged teachers to test and implement research findings in their teaching, encouraged teachers to obtain advanced degrees, and provided on-going opportunities for teachers to evaluate and share information related to classroom practice. These same teachers also reported that their school district provided professional development opportunities by giving teachers research updates via the district newsletter, and by encouraging teachers to attend professional conferences as well as paying teachers' fees to attend these conferences. As with Bennett's subjects, only a minority of subjects in the present study mentioned research as a vehicle for promoting professional development. However, since most of the respondents in our studies were in preservice teacher education programs, it may be unrealistic to expect them to foresee the potential benefits of research skills and knowledge to their professional development at this point of their training.

Respondents' failure to incorporate research production skills into their perception of the teacher role, and their statement that they had little time to devote to research production activities in their teaching reflects Green and Kvidahl's findings that, in actuality, practicing teachers rarely reviewed research literature, conducted a research study of their own, or presented their research at a professional conference. Bennett's research suggests some reasons why teacher research productivity is low. In Bennett's (1993) study, 90% of the inservice teacher sample surveyed felt that research was not supported as a professional development activity for teachers. Problems with support for teacher research activities included administrators who did not value teacher research, lack of available educational journals, the presence of a majority of school board members, administrators, and colleagues who did not read or discuss research, districts that gave no recognition for teacher involvement in research, and policies that allowed teachers to attend professional development workshops only if the teachers themselves paid for a substitute teacher during their absence.

Finally, our study results support Green and Kvidahl's statement (1990) that a lack of scholarship amongst teachers contributes to education's low prestige in the eyes of the general public. Only one respondent in our sample viewed research as a tool for enhancing public perceptions of the professionalism of teachers. This respondent stated: "Teachers in our country complain about their low status, yet are generally not current on research findings and aren't involved in conducting research." All other respondents in our study valued research skills primarily for their potential to enhance teaching and the development of the students whom they teach, or their own coursework and professional development.

While the results of our study are consistent with many important findings reported in earlier studies, we should note one point of difference. Our respondent's perceptions reflected the attitudes of graduate students enrolled in both preservice and inservice education programs, with the majority of these students being M.A.T. students. By comparison, several of the studies reviewed in this paper included practicing teachers (e.g., Baker &

Huffman, 1981; Green & Kvidahl, 1990; Todd & Reece, 1987), who might be expected to differ in some respects from graduate students who have not yet had any teaching experience. Indeed, as Bennett reported (1993), novice and experienced teacher-researchers differed in their attitudes towards the value of research activities for teaching. Thus, it would be useful to analyze students' quantitative and qualitative comments by years of teaching experience, an analysis which will be carried out by the authors in the near future.

Suggestions for Future Research

A number of future directions are suggested by these study results. One is the need to survey and compare responses of students at various points in their graduate program to ascertain whether opinions towards research training change as a result of enrolling in other courses, and if so, which academic courses specifically influence teachers' and prospective teachers' attitudes towards research.

A second is the need to survey and compare the opinions of graduate education students from different majors towards research training (e.g., students in Master of Arts in Teaching, School Psychology, Curriculum and Instruction, School Nursing, Early Childhood Education, Educational Leadership, and Special Education programs), with an eye towards possibly tailoring research course activities to meet the needs and goals of somewhat different student populations.

A third direction involves surveying the contents of research methods and statistics courses taught in a variety of teacher education programs. While there appears to be much agreement about what should constitute core content in research methods courses, some programs may exhibit substantial deviations from this "model" curriculum that prove to be valuable for promoting positive attitudes towards research by teachers, and for promoting a carryover of research skills into teaching practice. If so, this modified research course content should be identified.

A fourth direction involves surveying other stakeholders involved in education and teacher education programs, such as faculty in teacher education

colleges, school administrators, and state board of education officials. If major discrepancies are found between these stakeholders' perceptions and the perceptions of students in graduate education programs or practicing teachers, then these discrepancies need to be described and addressed.

Finally, a fifth direction suggests that subsequent survey questionnaires need to incorporate more research skills which are typically associated with qualitative research paradigms (e.g., interview method, observations, journaling). Qualitative research techniques often form the core of action-oriented, teacher-researcher activities, yet are sometimes not taught, or are allocated reduced time within the structure of current graduate education research courses.

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Table 1

Questions on Part A of the Initial Study Survey

(C)	1.	Ability to use library resources (e.g., abstracts, computer-based systems, reference information)
(C)	2.	Ability to critically analyze professional literature (journals articles, books, microfiche)
(C)	3.	Ability to construct a literature review on a chosen topic
(P)	4.	Ability to write a research proposal
(P)	5.	Ability to conduct a small-scale research study
(C&P)	6.	Knowledge of which statistical procedures are appropriate for different research designs and for solving selected research problems
(P)	7.	Knowledge of how to compute and interpret basic statistics
(P)	8.	Knowledge of how to compute and interpret intermediate of advanced statistics
(P)	9.	Ability to write a thesis
(P)	10.	Ability to produce a research report in an approved writing style (e.g., APA style)
(P)	11.	Ability to present research findings at a professional meeting
(P)	12.	Publication of research findings in the professional literature
	13.	Other

Note: (C) = Skills Required for Consumers of Research
(P) = Skills Required for Producers of Research

Table 2

Ranks, Means, and Standard Deviations of the Questions in Part A of the Initial Study Survey (N=167)

Question Number	Rank	Mean	Standard Deviation	Skills Consumer	Skills Producer
1	1	4.63	0.77	X	
2	2	4.12	0.96	X	
3	5	3.64	1.13	X	
4	6	3.63	1.16		X
5	8.5	3.42	1.16		X
6	8.5	3.42	1.18	X	X
7	3	3.82	1.11		X
8	12	2.57	1.12		X
9	10	3.35	1.38		X
10	4	3.70	1.19		X
11	7	3.49	1.31		X
12	11	2.72	1.33		X