Graduate Music Students' Attitudes toward Research

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Research methods courses have become commonplace in the graduate music education curricula of American universities, and this topic is an element of graduate study in music education required for a university to obtain membership in the National Association of Schools of Music (2001). Other parts of music teacher education, such as applied instrument and voice studies, conducting, and pedagogical studies perhaps hold a more clearly defined role than the research component does. Balancing between these traditional curricular components and recent additions such as research methods remains the basis of difficult decisions for designers of curriculum. Honing graduate curricula to meet the needs of students should not be done merely on speculation. The attitudes of graduate students in music toward the study and application of research is an important consideration in this quest. This investigation is intended to provide support, based on expression of student opinion, for the inclusion of research methods courses in their curriculum.

Need & Significance of the Study

Experienced researchers have offered advice to the next generation of researchers (Kratus, 1993), and in doing so have expressed the importance of training in research methods in the overall development of the well-informed music teacher. Opportunities exist for the current generation of teacher-researchers to provide a vast amount of knowledge about our field, and to improve the methods by which, and environments in which, they teach. Training music teachers

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to be skilled researchers, and to investigate ideas that will promote the goals of music education is essential for the development of our field (Colwell, Linebaugh, & Lucas, 1996).

The attitudes of a general graduate student population toward research have been investigated previously (Sardo-Brown, 1992; Van Hanegan, 1997), but the music profession has not yet surveyed its own students as to their attitudes. Many students in graduate music programs are themselves practicing teachers, and it is, therefore, necessary that we justify the importance of learning research methodology as part of their graduate education. It is possible that there are better ways for these students to spend their time and financial resources.

An important goal for the music teacher education community is to recognize the impact of studying research methods on the way music teachers do their job. While the investigation of the transfer of information learned in the graduate school classroom to application in the K-12 classroom is not the major purpose of the present study, the data collected reveal the attitudes of teachers related to that transfer. The purpose of this study is to measure how the attitudes of graduate students in music education change when they gain exposure to research in the setting of an introductory course in research methods. Of secondary importance within the confines of this study is determining if that exposure will have an effect on the practice of music teaching once those graduate students return to the classroom. The research hypothesis for the study is that the attitudes of graduate students in music education toward research will change positively due to the coursework they receive in this area.

Review of the Literature

Timberlake (1993) provided evidence that not until 1954 did writing about research as an element in college music instruction begin to appear in the major music education journals. But since the mid-1960s, the study of research has become ubiquitous in the graduate degree

requirements in music education. This topic may seem foreign to many new graduate students in music, but this type of coursework is a requirement of many graduate programs, and is a recommended element of graduate study (Ackerman, 1976; Olsen, 1987). Ross (1997) predicted the broadening of research topics in music education to reflect the research goals of music teacher educators. Barry, Taylor, and Hair (2001) claimed, "The current climate of dwindling support for arts programs has helped fuel a renewed interest in research among arts educators." These researchers have indicated the increasing importance of research to our field, the ever-growing pool of competent researchers and the escalating relationship between research and the practice of teaching music.

The contributors to *Music Teacher Education: Partnership and Process* (Olsen, 1987) stressed the importance of faculty members focusing on research methods when teaching graduate students and of providing good models of research methodology. The report suggested that research is an important scholarly pursuit for practicing teachers, as well. The significance of establishing and nurturing a population of researchers in music education was a point emphasized by Ball, Ross, Mamlin, Martin, Brookhart and Cox (1980), who wrote that "...doctoral programs that train research specialists should encourage the formation of a community of scholars who can work together to solve clearly identified major problems." The inclusion of graduate study at the master's level in this statement seems a reasonable extension of this statement, and is included in the present study.

The curricula and methods by which research is taught vary by institution, but problems associated with teaching research methods in graduate music education are universally experienced. These obstacles include: 1) the abstract nature of educational research as a "soft" science, as opposed to the productive world of the "applied" or "hard" sciences; 2) the often-

resistant attitude of graduate students who, presumably, have already gained experience as professionals in the teaching field, and; 3) the moral disconnect between the self-perceived roles of teachers and those of researchers (Labaree, 2003).

Due to these reasons, universities in the United States have attempted to find new ways of including research methods in their graduate curricula, while meeting the diverse needs of both faculty and graduate students. Page (2001) reported one such effort at the University of California, Riverside that included the hiring of a qualitative research specialist, and the addition of a new track of three courses that comprised the graduate curriculum in research. The program reported by Page had only moderate success, and the department's faculty encountered difficulty in adjusting to the culture that was the result of the new system. Glesne, Ayer, Kucij, Murray, Nalette and Weinstock (1989) reported a collaborative format for an advanced class in qualitative research methods that was extremely productive. These examples demonstrate the diversity of models by which universities teach research, and express the reality that some curricular choices are more successful than others are. While the content of the coursework for graduate music degrees is different from those discussed in the studies mentioned above, the problems and obstacles experienced in other areas of education are noticeably similar. The absence of investigation into the issues of teaching research in the music education area further substantiates the need for this study.

Sardo-Brown (1992) studied changes in attitudes toward research. Her study measured students' attitudes after a two-course curriculum that included a class that focused mainly on statistics and one that concentrated on action research. In the second course, students created a proposal for an action research project. The participants were 39 public school teachers from across the curriculum. The students were surveyed before and after the courses, each of the

courses lasting six weeks. Sardo-Brown also added an element of application to her study. At the conclusion of the twelve weeks of course work, in addition to completing the survey, students read two journal articles and recorded their reactions to the articles. The results of Sardo-Brown's study showed a positive change in the attitudes of graduate students toward research. In addition, her findings suggest that the positive change in attitude may be a result of the graduate courses in which the students participated. These ideas support the hypothesis of the present study.

The articles that Sardo-Brown's participants read addressed general psychological principles that, from her description, seem quite unrelated to the diverse fields from which some of the participants came. Although the articles were intended as general examples of research, the lack of relationship between the subjects of the two articles and the interests of the participants may have resulted in skewed data. This presents a variable that may have had a confounding effect on her data. The present study limits the sample of participants to graduate students in music education with the intention of gathering data that is generalizable to the population of graduate students only within the field.

A similar study was conducted by Monahan (1995), who surveyed graduate students' attitudes toward the effectiveness and applicability of the content of a research course. Data analysis for this study focused on correlating demographic data with attitudes and applications of research, such as the relationship between the respondents' job responsibilities and what they read in professional journals. The discussion for this study asserts that, despite the positive attitude that respondents had toward their research course experiences, motivation to take another research course was low, as was motivation to conduct research independent of the required coursework. Experience in introductory research classes indicates that this is often the

case, and also raises the issue of differing intentions for those pursuing doctoral degrees as opposed to those in master's programs. Doctoral students may approach research classes differently because of the necessity to include research in their probable career path.

Van Hanegan (1997) conducted a more classically "experimental" project to measure students' attitudes toward research. The author surveyed his own class in research methods, with which he was using a collaborative, project-based teaching style, and compared the results to those from a survey of a colleague's class, which was a traditional, lecture-based environment. This study did not measure changes in attitude; rather, students completed surveys only at the end of the course to measure their attitudes toward the differing teaching methods. Less than half of the students in Van Hanegan's colleague's class responded to the survey. Van Hanegan assumes, somewhat suspiciously that, "…the more motivated students in the lecture-based classes responded…"(1997). The "motivation" of which the author wrote is questionable, as is the assumption; there are no data displayed in the study to support any differences between students who responded and those who did not, nor is there any mention of measurement of the motivation of students who did respond. The currency of this study, and its focus on students' opinions, however, indicate the desire of those with the job of training educational researchers to find out about students' attitudes toward their curricula.

Introductions to research methods (which may include adventures into statistical analyses, or the possibly unfamiliar world of qualitative research) that *seem* to have little connection to what music teachers do as part of their professional lives contribute to the division between research and the practice of music teaching. The purpose of this study is to examine the change in expressed attitude of teachers enrolled in graduate study toward the methods and practices of research. In doing so, it is important to measure the extent to which teachers are

involved in research before they enter their coursework, either as consumers of research or as researchers. Further, it is important to examine how exposure to research methods might modify the way teachers do their job upon their return to the classroom.

Research Questions, Design, and Delimitations

The present investigation was designed to address the following questions:

1) What do graduate students know about research in music education when they enter research methods classes?

2) How do graduate students entering research methods classes feel about research as an area of study during their initial graduate school experiences?

3) How do the attitudes of these graduate students change after completing an introductory course in research methods?

4) To what extent does knowledge of research methods change how graduate students teach music?

This research was conducted based on the hypothesis that attitudes would change in a positive direction. The items on the survey instruments were designed to measure the attitudes of the graduate student respondents. The instrument contained fourteen items, which were slightly modified on the post-test only to accommodate a change to past tense. Items that were changed are shown below in parentheses. The instrument was newly designed for this investigation since no survey instrument was available that contained the same questions. The items were:

1. My exposure to research is sufficient so that I can read it and understand it.

2. I read music education research often and understand it.

3. I am knowledgeable about the types of research that music educators conduct.

4. I am aware of the results of major research studies in music education.

5. I see an important connection between research and how I teach music.

6. There is tremendous value in systematically explaining how students learn music.

7. I think studying research is a very valuable part of my graduate program.

8. I have a positive feeling about the material we will be covering in research class. (Modification for post-test: "I have a positive feeling about the material we covered in research class."

9. I feel very motivated to take a class in music education research methods, whether or not it is a requirement for my program. (Modification for post-test: "I feel very motivated to take an additional class in music education research methods, whether or not it is a requirement for my program.)

10. Research will be a very important part of my career as a music teacher.

11. I feel very connected to research in music education.

12. I aim to base my own teaching on research that has been done in my field.

13. I use my role as a teacher to explore answers to questions that researchers might seek.

14. My exposure to research methods will likely change the way I teach music.

Permission to conduct this study was obtained from the Northwestern University Institutional Review Board of the Office for the Protection of Research Subjects.

The participants for this study were students seeking master of music education degrees in summer programs at schools of music with outstanding reputations. The names of the schools and professors who allowed their students to participate are withheld to abide by confidentiality agreements. These programs were recommended to the author as schools with high quality graduate level instruction. To reveal further information about the recruitment, location, or standards by which the programs were selected may breach the ethical standards that the current

authors feel are important in a study of this sort. The n of 145 for the pre-test and 132 for the post-test, as well as the wide range of experience levels and specialties of the respondents lends validity to the data. The sample is not a randomly selected group, nor is the intention of this study to determine the effectiveness of curricula graduate music education in research classes. Rather, the sample chosen is a representation of music teachers who are invested in bettering themselves as professionals, and who may or may not have previous exposure to research as an element of music education. Table 1 shows a demographic analysis of the respondents.

Table 1

Demographic analysis of respondents

		Pre-test (N_1=145)		Post-test (N_2=132)	
		#	%	#	%
Teaching Experience					
	0-5 years	98	67.59	85	64.39
	6-10 years	28	19.31	27	20.45
	11-15 years	8	5.52	8	6.06
	16 or more years	11	7.59	12	9.09
Gender					
	Male	71	48.97	62	46.97
	Female	74	51.03	70	53.03
Degree Sought					
	Master's	141	97.24	130	98.48
	Doctorate	2	1.38	1	0.76
	Specialist or certification only	2	1.38	1	0.76
	Non-degree seeking	0	0	0	0
Primary Teaching Responsibility					
	Instrumental	88	60.69	79	59.85
	Choral	14	9.66	10	7.58
	General Music	41	28.28	40	30.30
	No response/does not apply	2	1.38	3	2.27
Primary Teaching Level					
	Elementary	48	33.10	45	34.09
	Secondary	94	64.83	83	62.88
	Post-secondary	1	0.69	1	0.76
	No response/does not apply	2	1.38	3	2.27

Participants completed a Likert-type scale survey pre-test during the first week of their experience in an introductory research methods class, and a corresponding post-test. Possible responses ranged from one to five, five representing a response of "strongly agree," and one representing a response of "strongly disagree." In order to preserve anonymity, the respondents were not asked to write their name anywhere on the survey instrument. Thus, no attempt was made to match the responses of individual pre-test and post-test respondents. Though responses were gathered from individual students, the analysis is only a comparison of the pre-test data to the post-test data.

Results and Interpretation

The data collected from the surveys were analyzed to examine possible changes in attitude, as indicated by changes in scores between the pre-test survey and the post-test survey. The sample, regardless of the institutional affiliation, was treated as a single group. Institutional affiliation was recorded only for the recognition of any anomalies that may arise as a result of the varying methods of teaching that individual professors use, though this factor was not included as a between-subjects variable in the data analysis.

Factors included in the analysis were the mean response to each survey item. The pre-test and post-test were compared using a one-way analysis of variance to determine if there was a significant change in the participants' indicated attitudes. These data appear in Table 2.

Table 2

Comparison of mean scores between pre-test and post-test; Analysis of variance

	Pre-test Mean Score	Post-test Mean Score	Mean Difference (Posttest-Pretest)	Significance (One-way ANOVA)
Item 1	3.15	4.05	0.89	<.0005
Item 2	2.48	3.11	0.63	<.0005
Item 3	2.54	4.01	1.47	<.0005
Item 4	2.52	3.55	1.03	<.0005
Item 5	3.43	3.98	0.54	<.0005
Item 6	4.10	4.24	0.14	.155
Item 7	3.81	4.08	0.27	.020
Item 8	3.59	3.90	0.32	.019
Item 9	2.97	2.99	0.03	.898
Item 10	3.18	3.29	0.10	.691
Item 11	2.50	3.08	0.58	<.0005
Item 12	3.26	3.66	0.41	.004
Item 13	2.99	3.53	0.55	<.0005
Item 14	3.71	3.83	0.12	.697

It is important to note that, as the research hypothesis predicted, all changes in mean score were in the positive direction. Based on a pre-determined .05 level of significance, the one-way analysis of variance reveals that differences in mean responses were significant for all but items 6, 9, 10, and 14. The discussion that follows will explore possible explanations for the apparent insignificant change in responses to these items, and will acknowledge the evident strength that research curricula are demonstrating based on the indicated attitudes of students.

Item 6, which addresses the perceived value of systematically explaining the way students learn music, was one of the four items for which there was no statistically significant change in response. Systematic explanation of a phenomenon such as music learning, despite the method one employs to accomplish that task, is the goal of much research in the social sciences. It is possible that the faculty members who delivered the curricula to which these students were exposed did not make a connection between the processes of research, and the benefits that music teachers gain from the findings of that research. The implication of this "broken link" is that teachers, even those seeking advanced degrees, do not realize the influence of research on their everyday practice.

Another item that failed to show a significant change in responses between the pre-test and post-test was item 9, which addresses the respondents' motivation to pursue additional coursework in research. Responses also did not differ significantly for item 10, or for item 14, which both addresses the transfer of research methodology to practice. These are further examples of the disconnect between the theoretical aspects of research to which students are exposed during their coursework and effective practice. These results imply that the respondents view research as a peripheral element of their graduate education, rather than one that may have direct effect on their teaching. While these implications do not speak immediately to the main purpose of this study, they are important to note, and lead to suggestions for further research.

The result of the analysis of variance for item 14 further supports the claim that the respondents fail to make a real connection between research and practice. Those responsible for teaching research methods would presumably hope that exposure to research and to the major research efforts that have occurred in the music education field would alter the beliefs of their graduate students in some substantive way. In light of the fact that research study is a

requirement of these programs, designers of graduate music education curriculum should strive to explicate those connections as effectively as possible.

The implication of those items that showed a less-than-significant change in response is that there is a cognitive division between research methods and classroom teaching. It is possible that the curricula to which the respondents were exposed did not place enough emphasis on examples of research conducted within a classroom setting, or on examples of research that are directly responsible for modifying the way practicing teachers teach. It is not, however, the role of the present study to speculate on the reason for this detachment; rather, it is to point out that the respondents may not see research as having a significant impact on their teaching practices.

Despite the results of these four items, the remaining items showed significant positive changes in response between the pretest and posttest measures. From the remaining items, the following can be concluded: the respondents feel that, as a result of their coursework, their understanding of research increased, their knowledge of the major studies in the field and of the types of research that have been conducted in the field increased, and they have a greater understanding of the connection between research and teaching, although they do not foresee researching as having a profound effect on the way they teach. Students felt positively about the material covered in their research classes and, as a result of those classes, felt a greater connection to the research community.

Discussion, Implications, and Suggestions for Further Research

This investigation supports the assertion that the attitudes of graduate music education students who are exposed to research methodology in their coursework change in a positive direction. The desire to conduct research as a part of their careers or to pursue further studies in research methodology did not vary enough to emerge as a statistically significant factor. If we

assume that including research as part of the complete career of a music teacher is desirable, then we must seek out specific ways to make clear connections between research and practice.

A theme that emerges from the investigation of current literature about the teaching of research methods at the graduate level is that of action research. Action research is defined as, "…a form of *collective* self-reflective [inquiry] undertaken by participants in social situations in order to improve the rationality and justice of their own social or educational practices…" (Kemmis & McTaggart, 1988, 5). This type of research lends itself well to instruction at the master's level because it involves teachers adapting to the role of researcher, but it does not require removal of one's self from the classroom environment, or from meaningful exchange with students. Wong (1995) addressed the need to restructure the relationship between teachers and researchers in order to promote teacher involvement in research activities. Teachers involved in graduate study can continue to carry out the responsibilities of their teaching position, but can assume the role of research as well.

Collaborative research, such as that which often occurs in action research designs, serves several purposes: 1) it involves teachers in the activity of research; 2) it produces data pertaining to real educational situations, and; 3) it promotes collaboration between teachers and university faculty. The role of "teacher-researcher" can also help promote community among colleagues who are interested in furthering their knowledge, and in improving their own situation as professional educators by answering questions that emerge from their own practice (Corrine E. Glesne, 1991; Hubbard & Power, 1993). Conway and Borst (2001) wrote of the importance and appropriateness of action research in advancing the role of research in music education: "This collaboration may require a shift from the power structure of research (i.e., university professor) studying the researched (i.e., K-12 music teacher) to a collaboration between equal partners".

Perhaps the most important and promising analyses come from item 12 and item 13 which dealt with teachers using their roles to conduct research while in the classroom. The fact that responses to these items changed in a positive direction at a statistically significant level provides evidence that students who are exposed to research methods may elect to implement some of their new "research knowledge" into their own teaching. Item 13, in particular, confirms that the respondents are interested in conducting action research studies. This result was expected due to the prevalence of action research as a theme in the literature examined for this study. Master's students who are active practitioners would fit well into the role of action researcher, which calls for a balance between teacher and researcher.

The immediate implication of the present study is that teachers of research methods should focus their energy more on creating a connection between research methods and the practical lives of teachers. While students may feel positively about the content and curriculum of their research methods classes, the lasting influence of research methods on their teaching is likely to be limited, unless extra effort is made to explicate the connection between research and practice.

Further research efforts in this area might include the collection of qualitative data that describes the experiences of the participants, and investigation into the methods that music teacher educators use to teach research. Syllabi for these classes may be established based on traditional values and goals. An analysis of the content of introductory research classes may reveal trends that are particularly innovative, or ideas that are antiquated and unnecessary. An expansion of the investigation to include a higher percentage of doctoral students may help to make the results more generalizable. Also, as mentioned in the limitations section of this report adherence to measures of strict anonymity made the comparison of between-subjects data

impossible, so further research that includes this type of analysis is necessary. Between-subjects analysis would include comparison of classes at each of the participating universities. Perhaps most importantly, further research could follow participants as they return to the classroom to find out if they become active researchers, and to investigate how exposure to research methods changes the way they teach music.

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