



Title: A Review of *Research in Music Education: An Introduction to Systematic Inquiry*

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It is with pleasure that we inaugurate the reprint of the entire seven volumes of The Quarterly Journal of Music Teaching and Learning. The journal began in 1990 as The Quarterly. In 1992, with volume 3, the name changed to The Quarterly Journal of Music Teaching and Learning and continued until 1997. The journal contained articles on issues that were timely when they appeared and are now important for their historical relevance. For many authors, it was their first major publication. Visions of Research in Music Education will publish facsimiles of each issue as it originally appeared. Each article will be a separate pdf file. Jason D. Vodicka has accepted my invitation to serve as guest editor for the reprint project and will compose a new editorial to introduce each volume. Chad Keilman is the production manager. I express deepest thanks to Richard Colwell for granting VRME permission to re-publish The Quarterly in online format. He has graciously prepared an introduction to the reprint series.

A Review of *Research in Music Education: An Introduction to Systematic Inquiry*

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A Review of *Research in Music Education: An Introduction to Systematic Inquiry* by Edward L. Rainbow and Hildegard Froehlich. New York: Schirmer Books, 1987. ISBN 0-02-870320-0. 330 pages.

Assume you are the instructor of an introductory course in music education research. The class has a mixture of masters and doctoral students, with a few upper level undergraduates. What will be your goals? That students exit the course as well-equipped, discriminating readers of music education research? That they emerge prepared to embark on a thesis or dissertation research project in a self-reliant way? That they understand why, how, and where ongoing research fits within the overall music education scheme? That they adopt a "research mentality" or structured inquisitiveness that extends beyond music education to a broad range of life situations? That they seek further, more in-depth courses in specific aspects of research, such as statistical analysis, experimental design, or the assessment of creativity?

The choice of a text to help address topics pertinent to such goals and the attendant objectives (all within 10 or 15 weeks) is indeed a critical one, and one that almost always calls for a compromise. Do you select a book on educational research that addresses the research process, including planning, design, data collection, analysis, and detailed reporting but leaves important tasks, such as relating the process to music education, providing pertinent research examples from the literature, and suggesting appropriate

library tools, to be accomplished by other sources?

Do you select a text that introduces and explains the whole range of designs and analyses that a research reader is likely to encounter in the increasingly sophisticated body of literature, yet because of its breadth of coverage does not provide enough depth to leave the incipient research practitioner equipped to design and complete a research project of any consequence?

Or do you attempt to "do it all" by requiring students to buy and read several books, along with numerous exemplary journal articles and dissertations and a few dozen of your favorite handouts, and

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to complete one or two research projects plus critiques during the term? This strategy would cover everything you had in mind but overload students to the point that the most important thing they learn is: "Research is hard, and I don't want to think about it ever again, much less read any or do any."

Rainbow and Froehlich have provided an important new option for those of us who teach music education research courses, or who would simply like to learn more about research. Their book, which reflects their own answers to the above questions,

covers a particular collection of topics not found in any other single source and addresses some topics, most notably approaches to historical and philosophical inquiry, in ways not encountered in earlier texts on music education research. Each chapter includes lists of suggested activities, topics for discussion, and references; most include summaries and lists of suggested readings. Each of the four major parts of the book begins with an explanatory overview. The general layout follows.

Part 1.
The Researcher and the Research Process (27 pages)

Chapter 1. The Role of Research in Music Education: Establishing a Body of Knowledge. (16 pp)

Chapter 2. The Researcher. (11 pp)

Part 2.
The Stage of Orientation and Planning (61 pp)

Chapter 3. Prerequisite for Conducting Research: Becoming Familiar with the Body of Knowledge. (19 pp)

Chapter 4. Finding a Research Purpose. (25 pp)

Chapter 5. Research Purpose, Rationale, and Problems: Definition of Terms and Other Delineations. (17 pp)

Part 3.
Modes of Inquiry: Approaches to Resolving the Research Purpose/ Problems (137 pp)

Chapter 6. Approaches to Historical Inquiry. (19 pp)

Chapter 7. Approaches to Philosophical Inquiry. (28 pp)

Chapter 8. Approaches to Empirical Inquiry. (33 pp)

Chapter 9. The Development of Measurement Tools. (28 pp)

Chapter 10. The Use of Statistics in Quantitative Data Analysis. (29 pp)

Part 4.
The Research Report: From the Proposal to Publication

Chapter 11. The Writing Task in Research: Proposal, Dissertation, Journal Article, Research Paper; Code of Ethics (17 pp)

The six appendices provided in the book give a list of research journals "closely related to music education", and step-by-step calculation guides for standard deviation, *t*-test (independent samples), Pearson correlation, one-way ANOVA, and 3 x 2 ANOVA.

In their preface, the authors state that the book "should not be taught in its entirety in one course". They explain why the book is organized as it is and make suggestions for using various sections as stand-alone units. It is clear from their statements that they intend the book to be fitted to a particular teaching situation, rather than to serve as the organizing guide for a course. They also suggest that portions of the book be supplemented with selected additional reading.

In Chapter 1, the authors argue convincingly that disciplined inquiry has an important role in music education. They lay the groundwork for an understanding of the research process by discussing not only relationships among such concepts as truth, facts, theory, and the scientific process, but also the nature of music education as a field of study. Their schematic presentation of the learner, the teacher, and music as determinants of music education provides a conceptual framework within which they later fit music education research endeavors.

The chapter ends with the classification of research by three modes of inquiry: philosophical, historical, and empirical. The authors are careful to point out that other classification schemes have been used, and that the other classifications are accommodated by their own (which becomes apparent in later chapters).

Chapter 2 expands on the classification of research as philosophical, historical, and empirical, but from the perspective of how the three types of researchers approach their tasks. Discussion centers on various aspects of the research mentality and its development.

Chapter 3 covers library use and critical reading skills. The section on using the library poses suggestions for efficient searches, including listings of selected

subject headings in the most-used indices for music education research. Conspicuously absent from the discussion are *Psychological Abstracts*, *Sociological Abstracts*, and *Social Sciences Citation Index*, all of which serve as important sources for identifying articles of interest in music education. Coupled with the list of research journals in Appendix A, this coverage should afford students a good start on efficient library use.

Chapters 4 and 5 constitute a particularly strong segment of the book, devoted to development of a research purpose, rationale, and problems. I have repeatedly found this process to be the single most troublesome aspect of research of graduate students. Once students have gotten past this point in their planning, other decisions seem to follow much more easily and quickly. As such, I welcome Rainbow and Froehlich's systematic approach as another aid in helping students not only to get through the process, but to enjoy it as well. In Chapter 4, they offer good-sense suggestions for getting started, emphasizing drawing on personal expertise and knowledge of the field of music education. They also provide a list of selected problem areas in the field as discussed in specific issues of the *Council for Research in Music Education Bulletin*, and the list of 12 broad questions posed by Leonhard and Colwell (1976) as meriting study.

The process of arriving at a research purpose in four stages, each with a list of suggested steps "to do" and examples, is presented. In Chapter 5, the authors explore the relationships among research rationale, purpose, and problems/questions, and provide specific examples from philosophical, historical, and empirical research reports. They choose to cover the next logical step, hypotheses, in the later chapter on empirical research.

In Chapter 6, Rainbow and Froehlich begin their coverage of the three modes of inquiry outlined earlier in the book. They present historical research not as merely the collection of facts from the past, but as an attempt to develop and test theories of history. Various new historical research techniques are discussed, along with three branches of historical inquiry regarded as particularly pertinent to

music education: oral history, psychohistory, and quantitative history. The chapter contains examples from the literature and an illustration of the application of various methodological approaches to historical research in music education.

Chapter 7 is another particularly important part of the book, partly because philosophical research tends to be downplayed in other research texts and in the music education research community. The authors cite Yarbrough's (1984) report, which indicates that between 1953 and 1983 only about three percent of all articles published in the *Journal of Research in Music Education* were philosophical or speculative in nature. In fact, some researchers choose not to accept philosophical pursuits as research at all, based on the argument that objective evidence in the form of data gathered is not used to support philosophical theories, as it is in both historical and empirical research.

Rainbow and Froehlich attribute this state of affairs in part to the facts that, "Very few music students have ever been systematically introduced to and trained in methods of logical inference or rhetoric" and "The questions to be examined are complex and difficult, whereas the methodological guidelines of philosophical reasoning in music education tend to be vague and lacking in specificity" (p. 151). The authors present philosophy as both a discipline with a defined body of knowledge and as an activity. They include a tabular presentation of various schools of philosophic thought with brief definitions in their discussion of philosophy as a discipline, and, in discussing philosophy as an activity, they include rules of argumentation and definition. The chapter concludes with specific methodological guidelines for philosophical inquiry in music education and a discussion of fallacies of argumentation. Material throughout the chapter is presented well and should prove to be a valuable beginning for those who do not have experience in studies philosophic, as well as a good organizer for those who do.

Chapters 8, 9, and 10 (collectively, 90 pages of text) deal with various aspects of empirical research. As such, the topics covered include those that one would be

likely to encounter in any number of educational research texts. The authors' choices of which topics to explore in depth and which to treat more superficially or omit altogether, along with inclusion of some concepts, techniques, and examples unique to music education, are what distinguish this section from other educational research sources. Chapter 8 outlines approaches to empirical research, including the role of numbers, levels of measurement (or data), normal distribution, probability, sampling, testing hypotheses, significance level, levels of inquiry (descriptive, correlational, experimental), checklists for planning a study, characteristics of good standardized tests (reliability, validity), administering data gathering devices, planning for data analysis, examples of applying the checklists, and drawing conclusions and inferences—a formidable list of topics to cover. Some research teachers may find that not all these topics are covered in the depth they wish for their courses. For example, although the relationship of samples to populations is discussed, there is no mention of sampling techniques other than random. Although experimental research is discussed, there is no mention of experimental or behavioral designs other than a reference to Campbell and Stanley (1966), nor are possible sources of internal and external validity addressed. Although test reliability is discussed, no mention is made of various reliability measures that might be encountered by a research reader (i.e., the difference between test-retest and internal consistency). The outline of considerations for data analysis is, as the authors state, too advanced for readers without basic knowledge of statistics, but at the same time too simple and incomplete to be of value with someone with much statistical expertise.

Chapter 9 covers the development and use of a broad range of measurement tools, including survey instruments, rating scales, tests, observational tools, and content analysis. The coverage is generally very good, but as with the material in Chapter 8, some teachers may choose to supplement this text with other, more in-depth sources. For example, although item analysis is discussed in some detail

under the heading of tests, and reliability and validity are discussed in relation to standardized tests, neither the need nor the means of establishing reliability in researcher-made tests is covered here (even though the correlation computation example in Appendix D is an example of determining test-retest reliability). Although Likert-type scales and criterion-referenced rating scales are discussed under the heading of rating scales, there is no mention of the semantic differential approach, which is also often encountered in literature related to music education.

Chapter 10 addresses statistical data analysis. The authors point out in the introduction that the chapter “is not intended to equip the reader with a fully operational command of statistical techniques” (p. 229). Topics covered include classification of statistics as descriptive, inferential, or prediction (regression) statistics; central tendency; standard deviation; the standard normal curve; statistical hypothesis testing; *t*-test (independent); correlation (Pearson); multiple regression; ANOVA (one-way and 3 x 2); and non-parametric statistics. The coverage is accurate and, coupled with the computation guides in appendices B through F, should accomplish the authors' intent: to help readers gain a rudimentary knowledge of the use of statistics. The only exception to accuracy is the potentially misleading discussion of differing symbols and formulae used to represent standard deviation. The authors imply that they all refer to the same statistical concept, when, in fact, a difference in formula often represents two different statistical concepts: sample standard deviation and estimated population standard deviation. Again, some instructors may wish to use supplementary sources to introduce such concepts as *t*-tests for dependent samples (as would be appropriate for some pretest, posttest situations); repeated-measures ANOVA (as would be appropriate for analyzing tests of the same people in different situations), or other analysis concepts that students would be less likely to use but might very well encounter in their reading (such as factor analysis, discriminant analysis, ANCOVA, or multidimensional scaling).

The final chapter is devoted to the reporting of research. In addition to general comments concerning writing style, suggestions are presented for writing proposals, journal articles, theses and dissertations, and research papers. An especially helpful section of this chapter is the presentation of sample structures for empirical, historical, and philosophical research proposals. In addition, the journal-submission process is explained.

Rainbow and Froehlich are to be applauded for bringing together research-related information from a variety of diverse sources and presenting it in a well-stated, understandable manner in a single book. Their considerable expertise and experience in teaching and research is evident in their explanations. The limitations in the chapters devoted to empirical research are a reflection of their biases, not naivete. As they state with respect to that section of the book, "In simplifying, one tends to make mistakes that to the uninitiated reader may not be noticeable, whereas to the expert they are monumen-

tal and inexcusable" (p. 105). Those who decide whether to use this book will surely know that a decision about which music education research text to use is not a decision about whether to supplement, but rather which areas to supplement. In my opinion, the areas to which Rainbow and Froehlich have decided to devote less attention may well be the most easily supplemented, whereas material in their areas of emphasis would not be so readily encountered elsewhere. This book deserves serious consideration. □

References

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