

Course Materials: Music Research Methodology

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Preface

Music is not merely an art of performance or singing for aesthetic pleasure; it is a discipline deeply rooted in and interconnected with history, culture, sociology, psychology, and science. To comprehensively understand musical knowledge and foster creative innovation, one must rely on a systematic process of inquiry: "Research."

This course material for "Music Research Methodology" has been compiled as a guide and handbook for students in music performance and music education as they step into the academic world. The content is divided into eight chapters, covering fundamental knowledge, formulating research problems, literature reviews, various research methodologies (quantitative, qualitative, and practice-based/creative), as well as research writing and research ethics.

The author intends to break down music students' apprehension toward research by turning abstract concepts into concrete ideas and providing examples directly related to musical contexts. This will help students realize that research is not a distant concept, but rather an essential tool for furthering ideas, refining musical skills, and creating new value for the arts. The author sincerely hopes that this material will ignite curiosity and enable students to enjoy the process of discovering musical truths.

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Chapter 1: Introduction to Music Research

Music research is the heart of advancing knowledge in musical arts. Excellent musicians must not only possess outstanding performance skills, but also the ability to pose questions, synthesize information, and explain musical phenomena logically and systematically.

1.1 Definition and Significance of Music Research

Research is a systematic and methodical process of seeking knowledge, truth, or problem-solving using scientific or reliable logical methods (Creswell & Creswell, 2018). When applied to music, Music Research refers to the process of investigating, analyzing, and interpreting music-related phenomena in all dimensions—whether concerning musical texts, composers, performers, listeners, or the surrounding socio-cultural contexts (Herbert, 2001).

The significance of music research includes: Preservation and Transmission: Helping to record and collect musical data that might otherwise be lost—such as folk or ethnic music—and preserving it in written form. Improvement of Pedagogy: Creating innovations, instructional media, and more effective practice regimens. Expansion of Aesthetic Boundaries: Leading to the discovery of new compositional styles or contemporary performance techniques.

1.2 Scope and Types of Music Research

Music is diverse and can be integrated with numerous other disciplines. Consequently, the scope of music research is broad and generally categorized by field as follows (Phelps et al., 2005):

Musicology and Historical Research: Focuses on the study of musical manuscripts, composer biographies, instrument evolution, and musical forms across eras.

Music Education Research: Studies learning processes, music pedagogy, musical developmental psychology in children, music curricula, and musical measurement and evaluation.

Ethnomusicology: Studies the relationship between "music" and "culture." It focuses on folk music, music in rituals, and fieldwork to understand music as human behavior.

Music Therapy and Psychology of Music: Investigates the effects of sound waves and musical activities on behavior, emotion, and physical and psychological healing.

Practice-Based and Creative Research: A currently popular approach focusing on the artistic process, analysis of advanced performance techniques, or original music composition paired with academic analysis of the creative thought process.

1.3 Characteristics of a Good Music Researcher

Transitioning from a "musician" to a "researcher" requires a shift in mindset. A good music researcher should possess the following qualities:

Curiosity: Being observant and frequently questioning musical phenomena that others might overlook.

Objectivity: In research, particularly regarding aesthetics, researchers must avoid letting "personal taste" judge whether music is good or bad. Instead, analysis must rely on empirical evidence and musical theory.

Ethics and Responsibility: Respecting artists' intellectual property, citing sources accurately, and remaining mindful of interviewees' rights during field research.

Chapter 2: Formulating Research Problems and Literature Review

The most challenging starting point in research for music students is often not writing the report, but answering the question: "What should I research?" Good research begins with a "problem" or "curiosity" worthy of finding an answer. Defining a clear research problem sets the direction for the literature review and subsequent research design.

2.1 Identifying and Formulating a Music Research Topic

Sources for music research topics can originate from multiple directions:

Personal Experience: Problems encountered during practice, teaching, or performance (e.g., Why do students struggle with register key transitions on the clarinet?).

Research Gaps: Reading existing literature and discovering unexamined areas or different contexts (e.g., The lack of a systematic formal analysis of symphonic works by Thai composers).

Social and Technological Issues: Changes in the music industry (e.g., The impact of Artificial Intelligence (AI) on compositional processes, or music consumption behavior via streaming platforms).

2.2 Research Questions and Objectives

Once a broad topic is selected, researchers must narrow the scope into a clear, measurable Research Question that can be realistically answered within the set timeframe (Creswell & Creswell, 2018).

Overly broad example: What is jazz music like in Thailand?

Specific and well-defined example: What factors influenced the development of improvisation styles among jazz musicians in Phra Nakhon nightlife venues between 2007 and 2017?

From the research question, one derives the Research Objectives, which typically use measurable action verbs such as to study..., to analyze..., to compare..., to construct and develop..., etc.

2.3 Literature Review

A literature review is not merely summarizing and pasting others' work together; it is a Synthesis demonstrating the academic foundation on which our research stands and how our study fills a specific gap in the music field (Herbert, 2001). The objectives of a literature review include:

Avoiding duplication of existing work (reinventing the wheel).

Identifying a Conceptual Framework and musical theories to serve as an analytical lens.

Studying the Methodology used by prior researchers, evaluating their successes or limitations.

2.4 Music Research Databases

Students should be trained to search reliable academic databases rather than relying on general search engines. Key databases for music studies include:

International: RILM Abstracts of Music Literature, JSTOR, Grove Music Online (Oxford Music Online), ProQuest Dissertations & Theses.

National (Thailand): ThaiLIS (Thai Digital Collection), TCI (Thai-Journal Citation Index Centre).

Chapter 3: Research Paradigms and Designs in Music

Once a clear goal (research question) is established, the next step is choosing the "vehicle" and "map" to reach the answer—namely, defining the research paradigm and design.

3.1 Research Paradigms

A paradigm is a "conceptual framework" or worldview that a researcher holds regarding reality. In music academia, two primary paradigms are commonly encountered (Creswell & Creswell, 2018):

Positivism: Assumes there is a single reality that can be measured and verified using numbers and statistics. Frequently applied in quantitative research, such as measuring brainwaves during music listening or evaluating music learning achievement.

Constructivism / Interpretivism: Assumes reality is complex and multiple, depending on interpretation and socio-cultural context. Frequently applied in qualitative research, such as studying the meaning of music in rituals or analyzing performance aesthetics.

3.2 Main Research Designs in Music

Contemporary music research is generally categorized into four main designs:

Quantitative Research: Focuses on collecting numerical data for statistical analysis to test hypotheses (Hypothesis Testing).

Example: Surveying audience satisfaction at symphony orchestra concerts; experimental research comparing note-reading speed between students taught via the Kodály method versus traditional methods.

Qualitative Research: Focuses on gaining a deep understanding of musical phenomena through in-depth interviews, participant observation, and documentary analysis.

Example: Historical research on the development of Thai music during the reign of King Rama VI; a case study on management strategies of successful choir ensembles.

Mixed Methods Research: Combines the strengths of both quantitative and qualitative research to comprehensively address complex research questions—often used in doctoral research.

Example: Surveying nationwide music teachers' perspectives using questionnaires (quantitative), followed by in-depth interviews with exemplary teachers to identify best practices (qualitative).

Practice-Based / Artistic Research: The most influential paradigm in contemporary music institutions. In this paradigm, "the artist is the researcher" and "the artistic practice is the research process" (Borgdorff, 2012). The goal is not merely writing a text about music, but generating new knowledge through performance or composition.

Example: Composing a contemporary piece that integrates Isan traditional instruments with a Western orchestra, wherein the researcher documents and analyzes their cognitive process, experimentation, and musical problem-solving throughout the composition period.

Chapter 4: Qualitative Research and Ethnomusicology

Qualitative research is particularly suited for music studies because music is a human creation rich in emotion, nuance, and social context. Rather than focusing on counts or statistics, this type of research seeks to answer "Why" and "How" to gain an in-depth understanding of musical phenomena in their natural context (Merriam & Tisdell, 2015).

4.1 Characteristics of Qualitative Music Research

Qualitative research possesses distinct characteristics: Researcher as Instrument: Data collection and interpretation rely primarily on the perspective and judgment of the researcher.

Naturalistic Setting: There are no lab setups or controlled variables; researchers study music where events naturally occur (e.g., temples, rituals, or rehearsal rooms).

Descriptive Data: Data typically takes the form of interview transcripts, field notes, photographs, videos, and audio recordings rather than numbers.

4.2 Ethnomusicology: Music as Culture

One of the primary fields utilizing qualitative methodology is Ethnomusicology, defined as the study of music in culture. Ethnomusicologists do not merely analyze scores or music theory; they examine how music reflects lifestyles, beliefs, class systems, and cultural identity (Nettl, 2015).

4.3 Fieldwork and Data Collection

Fieldwork is the core of qualitative music research. Popular methods include:

Participant Observation: The researcher lives or performs music alongside the target community to learn the musical culture from an insider's perspective.

In-depth Interview: Informal or semi-structured discussions with Key Informants (e.g., master musicians, folk artists, or community elders) to uncover unwritten tacit knowledge.

Focus Group: Bringing together a group of musicians or stakeholders to exchange views on specific research topics.

4.4 Trustworthiness

Because qualitative research relies heavily on human perception, questions of bias often arise. Researchers use Triangulation—comparing data from interviews, observations, and historical documents—to verify consistency and ensure data validity (Merriam & Tisdell, 2015).

Chapter 5: Quantitative Research in Music

Although music is associated with aesthetics, many dimensions (e.g., auditory psychology, music education achievement, or music media consumption) can be objectively measured in numbers. Quantitative Research aims for objectivity, establishing prior hypotheses, and using statistics for data analysis to generalize findings to a larger population (Creswell & Guetterman, 2019).

5.1 Concept of Variables

The core of quantitative research is examining relationships among Variables—attributes or conditions that can take on different values. Key variables in music research include:

Independent Variable: The cause or factor manipulated by the researcher (e.g., the Suzuki music teaching method).

Dependent Variable: The outcome being measured (e.g., students' violin performance skills).

Control Variable: Factors kept constant to prevent confounding the experimental results (e.g., students' age, daily practice duration).

5.2 Common Quantitative Designs in Music

Quantitative research in music performance and education generally appears in three main forms:

Survey Research: Examines current status, behaviors, or attitudes of a large population using questionnaires. (Example: Surveying audience satisfaction regarding orchestra performances in Bangkok.)

Correlational Research: Studies whether two or more variables relate in a specific direction (positive or negative) without manipulating variables. (Example: Examining the relationship between daily practice hours and stage fright levels among vocal majors.)

Experimental Research: The most rigorous design for establishing cause and effect. It divides participants into an Experimental Group (receiving treatment) and a Control Group (receiving standard instruction). (Example: The effect of an ear-training app on pitch recognition abilities in lower-secondary students, evaluated via pre-tests and post-tests) (Creswell & Guetterman, 2019).

5.3 Instruments and Data Analysis

Instruments must be assessed for Validity (measuring what it intends to measure) and Reliability (yielding consistent results upon repeated measurement). Common instruments include rating scales, music aptitude tests, and physiological tools (e.g., heart rate monitors during music therapy). Data is analyzed via statistical software (e.g., SPSS) to compute means, standard deviations, and inferential tests (e.g., t-test, ANOVA).

Chapter 6: Practice-Based and Creative Music Research

Historically, research was viewed strictly as writing text reports. Today, music institutions worldwide recognize Artistic Practice as a valid research process that generates new knowledge comparable to scientific research (Borgdorff, 2012). This paradigm serves as an ideal pathway for performing musicians.

6.1 Concepts of Practice-Based and Creative Research

Various terms describe this domain, including Artistic Research, Practice-Based Research, and Practice-Led Research. Key principles include: Practice-based Research: Practice serves as the primary research tool. The output is a creative Artifact (e.g., a new composition or performance) accompanied by an Exegesis explaining how the work generates new knowledge. Practice-led Research: Focuses on the working process to yield new understandings of artistic practice (e.g., discovering novel fingering techniques on an instrument) (Smith & Dean, 2009).

6.2 The Artist as Researcher

In this methodology, the musician wears two hats simultaneously: Creator/Performer and Researcher. Creation does not stem from inspiration alone; it involves questioning, background research, experimentation, reflection, and systematic problem-solving. Researchers maintain detailed research journals/logbooks from day one through the final performance.

6.3 Process and Output of Creative Research

Outputs typically consist of two inseparable components: The Creative Work: A performance recital introducing novel interpretative techniques, or a symphony integrating traditional folk scales. The Exegesis / Written Commentary: An academic document detailing the background, theoretical framework, experimental processes, and musical findings to demonstrate how the work expands the boundaries of musical knowledge (Borgdorff, 2012).

Chapter 7: Research Instruments and Data Analysis

Regardless of whether students choose quantitative, qualitative, or practice-based research, indispensable elements include Instruments for data collection and Methods for data analysis to reach reliable conclusions that address the research questions.

7.1 Research Instruments in Music

Researchers must select instruments appropriate for their data type (Creswell & Guetterman, 2019):

Qualitative Instruments:

Interview Guide: Flexible open-ended questions designed to explore deep attitudes or tacit wisdom.

Observation Form: Used to record behavior (e.g., observing behavioral responses to music in children with autism).

Quantitative Instruments: Questionnaire: Often uses Likert scales to measure satisfaction or opinions.

Musical Tests: Standardized tools such as Musical Aptitude Tests (Gordon, 1989).

Technological Tools: Audio spectrum analyzers or MIDI data processing software for measuring rhythmic precision objectively.

7.2 Instrument Quality Assurance

Before implementation, instruments must undergo validation: Validity: Ensures the instrument measures its intended construct (e.g., a sight-reading test must measure sight-reading, not memory). Typically verified by experts to calculate the Index of Item-Objective Congruence (IOC).

Reliability: Ensures consistent measurement results under identical conditions.

7.3 Data Analysis

Data analysis involves organizing and interpreting raw data:

Qualitative Analysis: Primarily deals with textual data from interview transcriptions. Researchers review transcripts, code key terms, establish categories, and synthesize them into themes (Thematic Analysis) presented through descriptive narratives (Merriam & Tisdell, 2015).

Quantitative Analysis: Numerical data is processed using software (e.g., SPSS, Excel) to compute:

Descriptive Statistics: Frequency, percentage, mean, and standard deviation (S.D.) to summarize overall data.

Inferential Statistics: Tests such as t-test or ANOVA to draw inferences from sample groups to larger populations or test research hypotheses.

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