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What High School Students Want to Know About Music: An Information Literacy

Instruction Course for a High School Music Camp¹

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Abstract

The SEMINAR High School Summer Music Camp at Western Michigan University provided an opportunity to offer intensive music related information literacy instruction to a small group of high school students over a two-week session. These students participated in an assessment study in which they provided answers to questions related to information literacy learning outcomes before and after the course of instruction. This case study presents a model for lessons and curricular structure for an information literacy course in music for high school students.

Introduction

Public services librarians are likely familiar with the need for and work of information literacy instruction for their primary clientele. In academic libraries, this consists primarily of working with students enrolled in courses with pre-arranged information literacy instruction. Music librarians working in academic libraries have built a substantial body of literature discussing the need for, the process of, and the outcomes of information literacy instruction in music, mainly to students enrolled in courses in institutions of higher education. Students come to academic institutions with a variety of levels of experience with information literacy. To date, the library literature does not reflect a discussion of music related information literacy instruction to pre-college populations. Information literacy practitioners would be in a better position to

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address the needs of college students in music if they understood the experiences these students tend to bring, and students would be better prepared for the rigors of college level information literacy expectations if they received information literacy instruction in their pre-collegiate education and transferred their competence in information literacy to their college level work.

This paper presents a case study of an information literacy course offered to high school students during the SEMINAR High School Summer Music Camp at Western Michigan University in July of 2016 and 2017, entitled “What I’ve Always Wanted to Know About Music” (hereinafter WIAWKAM). The content of the course is informed by the *Standards for the 21st-Century Learner* (hereinafter AASL Standards)² and the Music Library Association (MLA) *Information Literacy Instructional Objectives for Undergraduate Music Students* (hereinafter MLA Objectives).³ This case study involves a very small sample size, four students, and thus any insights gleaned from assessment of their work are not generalizable to a larger population.

Student progress was measured based on formal assessments at the beginning and end of the two-week course, and informal assessments throughout the course. During the course, students proposed a detailed question about music for which they did not know the answer, or a topic about which they would like to know more. Each session contained a brief period of instruction and discussion followed by a period where students worked on their own. At the end of the two-week session, the students had beginnings of answers to their questions, and began to form new questions. While these results are not generalizable, the case study is valuable as a model for lessons and curricular structure for information literacy instruction to high school students in music.

Literature Review

The library literature reveals an ongoing discussion about the information literacy of high school students as it relates to higher education. An ongoing theme of students' unpreparedness for the level of information literacy expected for college level work is apparent. Herring asserted that high school students in rural Australia did not adequately transfer information literacy knowledge from high school to college.⁴ Smith and others conducted an assessment study of high school student information literacy in Alberta and found that students largely performed poorly.⁵ Varlejs, Stec, and Kwon found that a group of first-year college students in the Douglass College of Rutgers University performed poorly on an information literacy assessment and surveyed the librarians at the schools where these students attended high school, concluding that students do not adequately transfer skills learned in high school to the college environment.⁶ Both the studies by Smith and others and Varlejs, Stec, and Kwon are notable because they were based on assessment of student information literacy rather than reports from practitioners. Saunders, Severyn, and Caron surveyed high school and college librarians and found that these professionals believed that students are not adequately prepared for information literacy tasks in college.⁷ Berg, Malvey, and Donohue argued that school librarians are necessary to prepare students for information literacy rigors in higher education.⁸

While academic librarians are likely familiar with the Association of College & Research Libraries (ACRL) *Framework for Information Literacy for Higher Education*,⁹ the curricular standard for information literacy in pre-college students in the United States is the AASL Standards.¹⁰ Martin, Garcia, and McPhee and Berg, Malvey, and Donohue referred to the AASL Standards as the curricular standard and reference point for instruction in work with this population.¹¹

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The library literature reveals two examples of university library initiatives offered to students in science, technology, engineering, and mathematics (STEM) fields. These are relevant to this study because they are subject based, as is the information literacy course presented in this paper. Rossini, Burnham, and Wright reported of an information literacy instruction program for high school students in a health-sciences summer enrichment program at the University of South Alabama.¹² Flash and others reported on a STEM conference hosted by the libraries of the University of Tennessee at Knoxville.¹³

While there is interest in subject-based STEM information literacy instruction, information literacy instruction that is tailored to high school students' individual interests holds appeal to certain authors in the library literature. Martin, Garcia, and McPhee reported of modifying an assignment so that students can learn to check out a book by selecting one that they are interested in.¹⁴ Shenton and Pickard advocated allowing students to define their own ways of working with information in their discussion of alternative models of information literacy.¹⁵

There do not appear to be any examples in the library literature of academic library information literacy-based outreach to high school students in music. The present study contributes to the literature as an example of an information literacy course that is both subject-based and tailored to high school students' individual interests.

The Course: What I've Always Wanted to Know About Music

The course was presented as part of the SEMINAR High School Music Camp at Western Michigan University during the two-week summer sessions of 2016 and 2017. It was offered during the elective time slot of 3:10 to 4:00 p.m. Monday-Thursday plus Saturday during the first week of camp and Monday-Friday during the second week of camp each year. Students decided at the beginning of camp which elective course they wanted to take. The students received an

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information sheet on elective classes with class descriptions. The description for WIAWKAM is as follows:

Students will be asked to propose a detailed question about music for which they do not know the answer, or a topic about which they would like to know more. Students will then work on a project in which they answer their questions and build their knowledge, using the print and online resources of the Music and Dance Library. Each session will include a brief period of instruction and discussion followed by a period when students work independently. Each participant will produce a concluding product (a short paper, bibliography, Power Point presentation, etc.). A maximum of 12 students will be selected based on SEMINAR seniority and the music theory placement test.

Each class meeting consisted of a different topic relating to information literacy in music, with the exception of the first meeting and the last meeting, which were devoted to the pre-test and the post-test assessments. Students who finished the pre-test before the class period ended were invited to think about topics about which they would like to learn more, and students who finished the post-test before the class period ended were invited to finish up their projects for the class. The topics of the class meetings were drawn from intersections of the MLA Objectives and the AASL Standards as outlined in the Results and Discussion, below.

The MLA Objectives do not neatly fit with the ACRL *Framework*, as they were designed to work with the ACRL *Information Literacy Competency Standards for Higher Education*,¹⁶ which are no longer promoted by ACRL as the curricular standard for information literacy. The compatibility of the MLA Objectives with the ACRL *Framework* is a consideration for practitioners of information literacy instruction in music in higher education, but is out of the scope of this discussion because of its focus on information literacy instruction in music at the

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high school level. I designed the content of the lessons and the assessment questions to correspond with specific points in the MLA Instructional Objectives and the AASL Standards. In comparing the MLA Objectives to the AASL Standards, I looked for points of intersection between the music-specific information literacy skills desired with the more general skills outlined by AASL.

Methodology

Following a protocol approved by the Human Subjects Institutional Review Board at Western Michigan University, I administered a pre-test assessment on the first day of WIAWKAM, conducted the instructional program of the course, and administered a post-test assessment on the last day of WIAWKAM. This procedure was conducted during the SEMINAR High School Music Camp in the summers of 2016 and 2017. There were two students in each session, for a study population of four students. The pre-test and post-test assessments asked identical, open-ended questions. The questions are listed below, along with the corresponding MLA Objectives (listed below as “MLA Objective, Standard” and a number) and AASL Standards:

1. Please write two or three questions about musical performances you would like to answer. These questions could relate to why music is performed, how it is performed, where it is performed, who performs music, the history of performances, or the planning of performances. (MLA Objective, Standard One, Performance Indicator 1.b.1; AASL Standards 1, Indicators 1.1.1; 1.1.3)
2. How would you find answers to your questions about music? (MLA Objective, Standard One, Performance Indicator 1.c.1; AASL Standards 1, Indicators 1.1.2; 1.1.4; 1.1.5)

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3. How do you know that your answers are reliable? (MLA Objective, Standard One, Performance Indicator 1.c.1; AASL Standards 1, Indicators 1.1.2; 1.1.4; 1.1.5)
4. Information may come in various “packages.” These packages include books and Websites. What other packages can you think of that contain information about music? (MLA Objective, Standard One, Performance Indicator 2.c.1; AASL Standards 1, Indicators 1.2.3; 1.2.4)
5. Can you think of ways to gather information about music that doesn’t come in a package? (MLA Objective, Standard One, Performance Indicator 2.c.1; AASL Standards 1, Indicators 1.2.3; 1.2.4)
6. Please list as many activities as you can think of that would lead you to gather information for the purpose of learning about music. (MLA Objective, Standard Two, Performance Indicator 1.a.1; AASL Standards 1, Indicator 1.1.6)
7. How would you locate a book about a musical topic that interests you? (MLA Objective, Standard Two, Performance Indicator 1.c.1; AASL Standards 2, Indicator 2.2.1)
8. How would you locate an article in a periodical about a musical topic that interests you? (MLA Objective, Standard Two, Performance Indicator 1.c.1; AASL Standards 2, Indicator 2.2.1)
9. Where would you look for detailed, basic information on musical topics? (MLA Objective, Standard Two, Performance Indicator 1.c.1; AASL Standards 2, Indicator 2.2.1)
10. Where would you look for definitions of musical terms? (MLA Objective, Standard Two, Performance Indicator 1.c.1; AASL Standards 2, Indicator 2.2.1)

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11. If you were to listen to several performances of the same piece of music, what would you listen for to tell the difference between the performances? (MLA Objective, Standard Two, Performance Indicator 1.b.1; AASL Standards 2, Indicator 2.1.3)
12. What does copyright mean, and why is this important to music and music information? (MLA Objective, Standard Five, Performance Indicator 1.d.1; AASL Standard 3, Indicator 3.1.6)

Keeping the identity of the students providing the answers confidential and reassigning their order using random numbers,¹⁷ I read their answers to study differences between the pre-test and post-test, as an indicator of how the students claimed that they would approach various information problems. I assigned codes to each of the answers to indicate the general topics the students addressed in their answers.

Results and Discussion

The students' answers to the pre-test and post-test questions are not part of a systematic investigation of the information literacy of high school students working with music, but rather, they show how this small population of students grew in their knowledge of information literacy concepts during the SEMINAR sessions in 2016 and 2017. Because the answers were coded based on the students' responses, and not against a standard, they are not measurements of desired student performance outcomes. They do, however, reflect changes in the way the students approached each of these questions after two weeks of instruction. Because there is not a control group, I cannot assert that these changes were caused by the instruction. Tables listing code definitions and codes applied to each response in the pre- and post-test are found in the appendix.

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Both the lessons and the assessment questions were designed with the intersection of the MLA Objectives and the AASL Standards in mind. As discussed above, the first class meeting consisted of administering the pre-test. The second class meeting, Library Tour and Brainstorming Session, was based on MLA Objective (Standard One) 1.b.1, “Formulates questions relating to the purpose, development, and presentation of a musical performance,”¹⁸ and AASL Standards 1.1.1, “Follow an inquiry-based process in seeking knowledge in curricular subjects, and make real-world connection for using this process in own life,”¹⁹ and 1.1.3, “Develop and refine a range of questions to frame the search for new understanding.”²⁰ These desired behaviors all point to students proposing questions about something flowing from their curiosity. The AASL Standard 1.1.1 complements MLA Objective (Standard One) 1.b.1 nicely, as it refers to “seeking knowledge in curricular subjects.” AASL Standard 1.1.3 refers to an information seeking practice that we could model through brainstorming. In this session, after a brief library tour, the students brainstormed for questions that they might like to ask about music topics. I developed some suggested prompts ahead of time to elicit curiosity. These include instruments, musical styles, composers, historical periods, contemporary of historical music of regions, performers, ensembles, and performance traditions. I wrote ideas that students suggested on the white board, and gave students notecards upon which to write their own questions to explore over the next two weeks.

The third class meeting, Encyclopedias, Dictionaries, Histories, Biographies, was based on MLA Objective (Standard One) 1.c.1, “Explores general information sources such as music encyclopedias and dictionaries, music histories, and composer biographies,”²¹ and AASL Standards 1.1.2, “Use prior and background knowledge as context for new learning,”²² 1.1.4, “Find, evaluate, and select appropriate sources to answer questions,”²³ and 1.1.5, “Evaluate

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information found in selected sources on the basis of accuracy, validity, appropriateness for needs, importance, and social and cultural context.”²⁴ The MLA Objective specifies some types of reference sources that are useful in music study, which complements the AASL standards cited here. Referring to both 1.1.2 and 1.1.4 ties the known to the unknown. Students begin with what they know, and use sources to either learn more, or to correct misconceptions. 1.1.5 stresses the importance of evaluating the usefulness of a particular source for particular information needs. In the lesson, I showed the students a range of standard music reference sources, and outlined the scope of coverage, publication dates, and information about the authors/editors, to model the kind of evaluation I want the students to perform when considering what a reference source can do for them. I also asked the students to list other sources of information they have used. The last part of the lesson involved assigning the students to collect background information on the topics of their questions, and to record relevant information about the reference sources they consulted, including the title, author or editor (if known), page number or URL, publication city, publisher, and date, if known. They used documents saved in Google Drive to record this information.

The first topic of the fourth meeting, Types of Music Information, came from the intersection of MLA Objective (Standard One) 2.c.1, “Identifies the different types of music information (e.g., books; articles; scholarly, critical, and performance editions; original compositions, arrangements, and transcriptions; sound recordings in various formats; video recordings in various formats; websites; subject experts; conference proceedings,”²⁵ and AASL Standards 1.2.3, “Demonstrate creativity by using multiple resources and formats,”²⁶ and 1.2.4, “Maintain a critical stance by questioning the validity and accuracy of all information.”²⁷ Again, the AASL Standard 1.2.3 leads naturally to the MLA Objective (Standard One) 2.c.1 because

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they both refer to resources and formats, AASL in general and MLA for music in particular. AASL Standard 1.2.4 refers to an information literacy practice that students may learn from modeling and class activities. In discussion, students were instructed to brainstorm types of sources of music information and ways of accessing these sources. After the discussion, students were assigned to find at least two sources of information to answer their questions, to create citations to those sources, and to use those sources to find answers. Finally, the students were asked whether the sources agreed with each other or disagreed, which is a cue for questioning the sources' accuracy and validity. The fourth meeting also addressed copyright and citation, which comes from MLA Objectives (Standard Five) 1.d.1, "Demonstrates an understanding of how intellectual property, copyright, and fair use are applied to digital audio files, music sampling, broadcasts, public performances, and recordings,"²⁸ and 3.a.1 "Cites musical sources correctly, including scores and sound recordings,"²⁹ and AASL Standard 3.1.6, "Use information and technology ethically and responsibly."³⁰ The discussion of these topics was mostly designed to raise awareness of these issues, and also to encourage ethical citation practices. Students were asked what copyright is, and I wrote their answers on the white board. I introduced the concept of fair use, particularly the educational use provision of the first fair use factor in Section 107 of the United States Federal Copyright Law.³¹ Since copyright and citation practices both have implications for ethical and responsible information use, the MLA and AASL documents intersect on these points.

The fifth meeting's content, Manifestations of Works, stemmed from MLA Objective (Standard One) 2.c.2, "Selects appropriate manifestations of a work and determines the need for supporting information about the musical composition,"³² and AASL Standard 1.1.5, "Evaluate information found in selected sources on the basis of accuracy, validity, appropriateness for

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needs, importance, and social and cultural context.”³³ For this discussion, I gathered several examples of different manifestations of the same work, including a score from a composer’s collected works, a performing edition, and a recording of the work. I asked the students to discuss the differences and similarities between the different manifestations, pointing out the intellectual responsibility that different individuals had for different manifestations, such as composers, editors, and performers. Students were then assigned to find multiple manifestations of the same work, using resources in the library. The focus of the lesson and the intersection between these two standards falls under the AASL document’s wording of “appropriateness for needs.” Different manifestations often serve different purposes.

The sixth meeting addressed gathering information about music. The first part was based on MLA Objective (Standard Two) 1.a.1, “Identifies investigative methods appropriate to music (e.g., listening, historical research, musical analysis, fieldwork, biography, bibliography, discography),”³⁴ and AASL Standard 1.1.6 “Read, view and listen for information presented in any format (e.g., textual, visual, media, digital) in order to make inferences and gather meaning.”³⁵ These two standards intersect in that they both address gathering information, but they differ in that the AASL Standard in this case deals with methodology, while the MLA Objective deals with identifying methods. Students brainstormed ways of making sense of different kinds of information sources in music. I suggested strategic note taking, reading for keywords, and listening for patterns or other characteristics in performances and recordings. The second part of the sixth meeting was based on MLA Objective (Standard Two) 1.c.1, “Investigates the scope, content, and organization of music information retrieval systems (library catalogs, union catalogs, music periodical indexes, music encyclopedias and dictionaries, music bibliographies and discographies and possibly thematic catalogs)”³⁶ and AASL Standard 2.2.1,

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“Demonstrate flexibility in the use of resources by adapting information strategies to each specific resource and by seeking additional resources when clear conclusions cannot be drawn.”³⁷ These two standards complement each other, in that the MLA Objective suggests ways of evaluating and using different types of resources and the AASL Standard refers to an information literacy practice of using these resources in different ways and in combination when necessary. Students were assigned to examine the library’s discovery layer and *The Music Index* for five minutes each, and to report back on what each tool can do. They were prompted to report on the scope of each as well as the strengths and weaknesses of each, from their point of view.

The seventh meeting addressed reading, listening and interpreting. The first part came from MLA Objective (Standard Three) 1.a.1, “Reads scores or listens to recordings to understand and evaluate musical works,”³⁸ and AASL Standard 1.1.6, “Read, view, and listen for information presented in any format (e.g., textual, visual, media, digital) in order to make inferences and gather meaning.”³⁹ These two standards involve reading and listening as a means to gather information and comprehend the information gathered. I showed students a musical score, and asked them to say what they noticed about it. I wrote down answers on the white board and discussed them with the students. The second part of the seventh lesson comes from MLA Objective (Standard Three) 1.b.1, “Articulates the principles of a particular musical interpretation (e.g., tempo, ornamentation, articulation),”⁴⁰ and AASL Standard 2.1.3, “Use strategies to draw conclusions from information and apply knowledge to curricular areas, real-world situations, and further investigations.”⁴¹ In this case, the AASL standard is a general skill for which the MLA objective provides discipline-specific application. I asked the students what the performer adds to the notation in a score to make it a musical performance, and then wrote

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their answers on the white board for discussion. The third part of the seventh lesson comes from MLA Objective (Standard Three) 1.c.1, “Identifies primary materials of a musical work that may be quoted in score or recorded examples,”⁴² and AASL Standard 2.1.4, “Use technology and other information tools to analyze and organize information.”⁴³ Here, the two standards are complementary. The MLA objective identifies an analytical skill, that students must be able to identify elements of a musical work from studying it, and the AASL standard refers to analyzing and organizing information. In the lesson, I asked students, “what do you look for in literature or music when taking notes or deciding to include a quotation as an example of a point you make?” I wrote their answers on the white board for discussion. I added literature in this question because I cannot be sure that high school students would have any experience choosing musical quotations to illustrate a point, but they probably would have some experience doing this with literature.

The content of the eighth meeting comes from MLA Objective (Standard Three) 4.d.1, “Tests theories through musical performance, listening, presentation, and writing,”⁴⁴ and AASL Standard 2.1.1, “Continue an inquiry-based research process by applying critical-thinking skills (analysis, synthesis, evaluation, organization) to information and knowledge in order to construct new understandings, draw conclusions, and create new knowledge.”⁴⁵ These two standards are complementary in that they both involve learning by doing. The MLA objective refers to testing theories by doing various actions (and conducting the implied follow-up observation), and the AASL standard refers to an inquiry-based research process, which students can carry out by doing and observing. In class, I asked the students three questions, and wrote their answers on the white board for discussion. These were:

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1. What are the main ideas you have uncovered in the texts you have read (in this course)?
2. How have the different texts you have read presented similar ideas? How have the ideas differed from text to text?
3. How have these ideas helped you to understand the questions you have asked, and how have they led to new questions?

The ninth meeting's content, Organizing and Communicating, comes from MLA Objectives (Standard Four) 1.a.1, "Organizes content in a manner that supports musical purposes such as recital programs and program notes,"⁴⁶ 3.d.1, "Communicates clearly both in writing and verbally,"⁴⁷ and AASL Standard 2.1.4, "Use technology and other information tools to analyze and organize information,"⁴⁸ and 3.1.3, "Use writing and speaking skills to communicate new understandings effectively."⁴⁹ In this case, the standards intersect at the organization and communication of information. I asked students these questions, and wrote answers on the white board to discuss:

1. How have you organized the answers to your questions?
2. What is the most important thing you have learned about the questions you have asked?
3. What questions do you still have about your topics?

The tenth and final meeting consisted of administering the post-test assessment and allowing students to finish up their projects, which they saved in Google Drive for future reference.

Conclusion

This case study represents a model for academic librarians to introduce information literacy to high school students. The direct effect of this instruction is limited to the small number of students who participated, but indirectly it may have a longer-lasting effect if these students leave the summer camp course with information literacy skills that they apply in their future high school and college explorations of musical topics and problems. If they have a positive impression of their own skills, the effect may be wider in that they may help others with musical problems requiring information literacy.

WIAWKAM was well received by the administration of the SEMINAR music camp. It was offered again in 2018, but was cancelled due to lack of student enrollment. I will retool the description and possibly the title of the course for future years. The SEMINAR music camp presents future opportunities to work not only with the students who enroll in WIAWKAM, but also with faculty and students on possible information literacy instruction in other courses in the camp.

Future research could focus on assessing information literacy instruction with high school students in music, on the presentation of information literacy instruction in high school music courses, such as large ensembles (band, chorus, or orchestra) or music theory courses, whether in pre-college programs offered by institutions of higher education, in music camps, or in high schools. Larger sample populations would be desirable in future research.

Acknowledgments

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Endnotes

1. Preliminary findings for this paper were presented as a poster at the Music Library Association Annual Meeting in 2017.
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18. MLA Objectives, 669.
19. AASL Standards, 22.
20. Ibid.
21. MLA Objectives, 669.
22. AASL Standards, 22.
23. Ibid.
24. Ibid.
25. MLA Objectives, 670.
26. AASL Standards, 22.
27. Ibid.

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28. MLA Objectives, 678.

29. Ibid., 679.

30. AASL Standards, 25.

31. See “17 USC 107,” *United States Code*, Office of the Law Revision Council, U.S. House of Representatives, accessed November 7, 2018
[http://uscode.house.gov/view.xhtml?req=\(title:17%20section:107%20edition:prelim\)](http://uscode.house.gov/view.xhtml?req=(title:17%20section:107%20edition:prelim)).

32. MLA Objectives, 670.

33. AASL Standards, 22.

34. MLA Objectives, 671.

35. AASL Standards, 22.

36. MLA Objectives, 671-72.

37. AASL Standards, 24.

38. MLA Objectives, 674.

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42. MLA Objectives, 674.

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44. MLA Objectives, 675.

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48. AASL Standards, 24.

49. Ibid., 25.

Appendix: Tables

Table 1. Codes assigned to responses to Question 1.

Code	Characteristic of Student Response
Behavior	Related to behaviors associated with performing or attending performances
Historicism	Related to preferring performances of works of the past rather than performances of contemporary works
History	Related to history of musical performance
Interpretation	Related to manner of performance of a particular work
Notation	Related to systems of notation
Purpose	Related to the reasons for performing
Reception	Related to audiences that would be interested in specific types of performances
Sociology	Related to music as a social phenomenon

Table 2. Codes applied to each student's answers to Question 1.

Student Number	Pre-test Codes	Post-test Codes
1	Interpretation, Purpose, Reception	Historicism, History, Sociology
2	Behavior, Reception	Notation, Reception
3	Behavior, History	Behavior, History
4	History	History, Notation

Table 3. Codes assigned to responses to Question 2.

Code	Characteristic of Student Response
Articles	Referring to articles in periodicals.
Behavior	Referring to the study of behavior associated with music.
Consulting experts	Referring to consulting experts to find answers to questions.
History	Referring to written history as a means of answering questions of providing a framework for interpretation.
Online	Referring to internet, Google, etc.
Opinion	Referring to student's or others' opinion.
Physical	Referring to books or other materials specifically not online.
Research	Referring to the need for research without specifying how it will be conducted.

Table 4. Codes applied to each student's answers to Question 2.

Student Number	Pre-test Codes	Post-test Codes
1	History, Opinion, Research	Articles, Online, Physical
2	Online, Physical	Online, Physical
3	Behavior, History, Online, Physical	Articles, Consulting experts, Physical
4	Online, Physical	Articles, Physical

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Table 5. Codes assigned to responses to Question 3.

Code	Characteristic of Student Response
Academic	Answers come from an online resource sponsored by an academic institution.
Authority	The author is perceived as authoritative or credible.
CRAAP	The student would apply the CRAAP Test, looking for Currency, Reliability, Authority, Accuracy, and Purpose (see note 28).
Journalism	Answers come from a news source perceived to be reliable.
Library	Answers come from resources held in a library.
Popular	Answers come from a resource perceived to be popular.
Primary	Answers come from a primary source.

Table 6. Codes applied to each student's answers to Question 3.

Student Number	Pre-test Codes	Post-test Codes
1	Authority, Primary	Authority
2	Authority, Popular	CRAAP
3	Academic, Authority, Journalism	Academic, Journalism, Library
4	Academic, Library	Authority

Table 7. Codes assigned to responses to Question 4.

Information "packages" that students identified, other than books or websites
Composer's notes
Conferences
Historical sites
Movies
People
Periodicals
Programs
Printed music
Recordings

Table 8. Codes applied to each student's answers to Question 4.

Student Number	Pre-test Codes	Post-test Codes
1	Composer's notes, Periodicals	Programs, Recordings
2	Conferences, People, Periodicals, Movies	Movies, People, Periodicals, Recordings
3	Historical sites, Periodicals, Printed music	People, Periodicals
4	Composers' notes, Printed music, Programs, Recordings	Periodicals, Printed music, Recordings

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Table 9. Codes assigned to responses to Question 5.

Methods for gathering information about music that doesn't come in a "package."
Asking an expert
Experience
Experiments
Performance

Table 10. Codes applied to each student's answers to Question 5.

Student Number	Pre-test Codes	Post-test Codes
1	Experience	Asking an expert
2	Experiments	Asking an expert, Experiments
3	Asking an expert	Asking an expert
4	Performance	Asking an expert, Performance

Table 11. Codes assigned to responses to Question 6.

Activities that would lead to gathering information for the purpose of learning about music
Classes (taking classes)
Consulting experts
Ensemble participation
Library (library use)
Observing performance
Online searching
Performing
Reading
Thinking
Viewing (watching video resources)

Table 12. Codes applied to each student's answers to Question 6.

Student Number	Pre-test Codes	Post-test Codes
1	Consulting experts, Ensemble participation, Observing performance, Online searching, Performing	Classes, Ensemble participation, Observing performance, Performing
2	Reading, Viewing	Classes, Performing, Reading, Viewing
3	Observing performance, Performing, Thinking	Observing performance, Thinking, Viewing
4	Classes, Library, Observing performance, Performing	Classes, Observing performance, Performing, Reading, Viewing

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Table 13. Codes assigned to responses to Question 7.

Code	Characteristic of Student Response
Book store	Using a book store to locate a book.
Catalog	Using a library catalog, specifically, to locate a book.
Library	Using a library to locate a book.
Online searching	Using some online modality to locate a book.

Table 14. Codes applied to each student's answers to Question 7.

Student Number	Pre-test Codes	Post-test Codes
1	Catalog	Catalog
2	Library	Library, Online searching
3	Book store, Library, Online searching	Library, Online searching
4	Library, Online searching	Catalog

Table 15. Codes assigned to responses to Question 8.

Code	Characteristic of Student Response
Discovery layer	Using a library discovery layer to locate an article in a periodical.
Index	Using a periodical index database to locate an article in a periodical.
Library	Using a library to locate an article in a periodical.
Online searching	Using some online modality to locate an article as a periodical.
Unknown	Periodicals unknown as a concept.

Table 16. Codes applied to each student's answers to Question 8.

Student Number	Pre-test Codes	Post-test Codes
1	Library, Online searching	Discovery layer
2	Unknown	Index
3	Library, Online searching	Library, Online searching
4	No answer	Index

Table 17. Codes assigned to responses to Question 9.

Sources or methods for obtaining detailed background information on musical topics
Biography (biographical materials)
Books
Consulting experts
Encyclopedias
History (historical materials; written history)
Index (index databases)
Notes in scores
Online searching (to find detailed background information)
Research papers

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Table 18. Codes applied to each student's answers to Question 9.

Student Number	Pre-test Codes	Post-test Codes
1	Books, Research papers	Biography, Encyclopedias, Notes in scores
2	Consulting experts, Online searching	Notes in scores
3	Books, Online searching	Encyclopedias, Online searching
4	History	Encyclopedias, Index

Table 19. Codes assigned to responses to Question 10.

Sources for definitions of musical terms
Consulting experts
Dictionary
Google (searching Google as a method to find definitions of musical terms)
Library (library resources)
Online (online resources)

Table 20. Codes applied to each student's answers to Question 10.

Student Number	Pre-test Codes	Post-test Codes
1	Consulting experts, Dictionary	Dictionary
2	Google	Dictionary
3	Dictionary	Dictionary
4	Dictionary, Library, Online	Dictionary

Table 21. Codes assigned to responses to Question 11.

Distinguishing characteristics between multiple performances of the same musical work
Acoustics
Articulation
Dynamics
Form
Interpretation
Phrasing
Rhythm
Style
Tempo
Texture
Tone

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Table 22. Codes applied to each student's answers to Question 11.

Student Number	Pre-test Codes	Post-test Codes
1	Articulation, Dynamics, Form, Phrasing, Tempo, Texture, Tone,	Articulation, Dynamics, Interpretation, Phrasing
2	Articulation, Rhythm, Style, Tempo	Articulation, Dynamics, Form, Style, Tempo, Tone
3	Articulation, Phrasing, Tempo	Articulation, Tempo
4	Articulation, Dynamics, Interpretation, Style, Tone	Acoustics, Articulation, Dynamics, Phrasing, Style, Tone

Table 23. Codes assigned to responses to Question 12.

Code	Characteristic of Student Response
Credit	Student asserted that the owners of a copyright must be credited when their work is used.
Infringement	Student erroneously defined copyright similarly to copyright infringement.
Plagiarism	Student erroneously defined copyright similarly to plagiarism.
Reproduction prohibited	Student recognized that reproduction is generally prohibited without permission.
Revenue entitled	Student acknowledged that copyright owners have the right to make money from selling access to copyrighted material.
Rights owned	Student acknowledged that copyright indicates that rights of reproduction are owned.

Table 24. Codes applied to each student's answers to Question 12.

Student Number	Pre-test Codes	Post-test Codes
1	Revenue entitled, Rights owned	Revenue entitled, Rights owned
2	Credit, Plagiarism	Infringement, Rights owned
3	Credit, Rights owned	Credit, Revenue entitled
4	Credit, Reproduction prohibited	Reproduction prohibited, Revenue entitled