The Relevance of Music Theory Concepts and Skills as Perceived by In-service Music Educators

Vicky V. Johnson
Tarleton State University

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Tarleton State University

Abstract

This study investigated the perceptions of in-service music educators (N = 151) regarding the relevance of specified concepts and skills taught in collegiate music theory and aural skills courses. In a survey using a Likert-type scale with frequency response anchors, the researcher asked respondents to rate 58 specific music theory concepts and skills. The researcher asked the respondents to indicate how often they use specific music theory concepts and skills in their professional life and how often they teach the same concepts and skills to students or to others. The frequency mean scores revealed that twentieth century music theory concepts and skills had generally low scores, indicating a perceived lack of relevance to in-service music educators. Emerging themes from open-ended comments included a need for more pedagogy and a greater emphasis on aural skills. Results suggested that typical music theory sequence content may not align with the needs of current in-service music educators. The results also have pedagogical implications for including explicit associations in the music theory curriculum toward establishing relevance to music theory curriculum reform and to the field of music education.

Keywords: music theory, aural skills, music education, curriculum, music theory pedagogy

The debate over the relevance of various components in the music education curricula is not a new one (Howard, 1974; Colwell, 1985). In recent years, legislatures and institutional boards have compelled the compression of curricula in higher education by limiting the number of credit hours allowed in a degree in an effort to contain costs in state-supported institutions (Hope, 2007). This has increased the need to scrutinize curricular hours for inclusion in music education degrees. Those curricular hours designated under the music theory discipline usually comprise a sizable sequence block in music education degrees. A specified sequence of music theory courses is required in all nationally accredited music education degrees in the United States (National Association of Schools of Music, 2013). However, as knowledge, scholarship, and globalization have increased, music theory has become "an almost impossibly broad term" (White, 2002, p. 211) and has grown to encompass an untenable range of topics (Rogers, 2000). In a recent interview, the composer, Libby Larson remarked, "Theory is so divorced from music education and that is really a shame. Composers have been creating new ways of hearing for a long time, which could inform music education pedagogy" (Strand & Larsen, 2011).

The music theory curriculum typically includes such courses as diatonic harmony, chromatic harmony, counterpoint, form and analysis, contemporary theory, analytical techniques, composition, arranging, musicianship, aural skills, and keyboard harmony. Curricular choices and topics stressed within these courses can run the gamut from covering a large number of topics in a superficial manner to in-depth studies in selected areas. Thus, under curricular hour constraints, administrators must make content choices and examine issues of breadth versus depth.

In-service music educators' perception of the relevance of this music theory content is important because this information can inform both curriculum and pedagogy. When those in

music teacher education make content choices, it is important to consider this perspective. The goal of music teacher education programs is to prepare and equip students to be excellent music educators. Previous studies reflect the perception of music educators as to the efficacy of this preparation and identify concepts and skills that were lacking in music teacher preparation (Adderley, Schneider, & Kirkland, 2006; Brophy, 2002; Byo, 1999; Cannon, 2002; Forsythe, Kinney, & Braun, 2007; Pembrook & Riggins, 1990). These studies also identify additional content believed to be necessary in music education programs.

On the other hand, debate continues regarding the viability of the canon[1] and whether the focus on the Common Era[2] is too narrow and overly emphasized in music education programs (Bradley, 2007; Kindall-Smith, McKoy, & Mills, 2011; Stutes, 1995). In 1969, Sherman called music theory "an anachronism" as he described pedagogy, practices, and emphases that continue today (p. 39). Cutietta (2007) advocated more specialization in the content of music education programs, which could suggest emphasis of the music theory concepts and skills associated with students' particular fields. Which content to add, emphasize, delete, or de-emphasize is a complex set of questions. Perception of content relevance in music education degrees is a factor to consider.

Addressing perceptions of relevance to improve student engagement and retention can also improve music theory pedagogy. Perception of relevance (the value that students place on the context) is as important for learning as it is related to information retrieval (Borlund, 2003). Fostering relevance is important in predicting engagement in learning (Assor, Kaplan, & Roth, 2002). This process involves relating the learning task to the students' personal goals. Making content relevant to students has also been shown to increase student motivation to study (Frymier & Shulman, 1995).

In many programs, the music theory core (typically the first four semesters) is completed before students take music education courses, separating theory from application in music teaching (Thornton, Murphy, & Hamilton, 2004). So much of music theory is introductory in nature and related to rudiments and fundamentals, that students may fail to link theory to practice. This can lead to what Rogers (2004) refers to as "an extended introduction to nowhere" (p. 4). When synthesis of information happens subconsciously, relevance may not be recognized and may depend upon the intellectual development of the student (Hourigan & Scheib, 2009). Music theory faculty may even be unaware of the content and requirements mandated by states to be taught in public schools or assume they do not apply (Johnson, 2010). Thus, opportunities for important, relevant connections may be lost. Among the challenges for music theory is to find "relevance and impact in the realm of practical music-making" (Cherlin, 2000). The first step in addressing the issues of curricular scrutiny with regard to relevance and assisting students in making connections of relevance is to identify this spectrum as reported by those in the field who are currently applying what they have found to be relevant.

Purpose of the Study

The purpose of the study was to identify the relevance of specified concepts and skills taught in collegiate music theory and aural skills courses as perceived by in-service music educators. The results of this inquiry may be useful for scrutinizing the music theory curriculum sequence and course content and to supplement the dialogue on music theory curriculum and reform. The results may also have pedagogical implications for including explicit associations in the music theory curriculum toward establishing relevance to the field of music education.

Research Questions

This study examined the following questions:

1. Which music theory concepts and skills do in-service music educators use in their careers?

2. Which music theory concepts and skills do in-service music educators teach in their careers?

The basis for these research questions was two-fold. Leonhard (1985) admonished higher education to "challenge all aspects of the program. Consider each course and define how it leads to better teaching" (p. 16). Music theory concepts and skills perceived to be most relevant may need additional emphasis, or at least to be maintained. In-service music educators will not pass on concepts and skills they find to be irrelevant. If music educators cannot justify the relevance of these music theory concepts and skills to the field of music education, curriculum change may be necessary. If they can be justified, it is the responsibility of music theory faculty to make the connections that establish relevance and to make explicit their applicability within the context of music education.

Method

Participants

Participants in the study were in-service music educators ($N = 151$) responding to survey requests posted on professional and alumni forums and requested by e-mail. In addition, the researcher posted an invitation to participate in the survey on MusicK-8.com, ChoralNet.com, Banddirector.com, and forums.bands.org. The researcher sent a request by email to the music alumni database list from her institution. Additionally, she posted all requests once and sent no

reminders. Of those responding, 42% were primarily choral specialists teaching in middle school and/or high school, 19% were primarily instrumental specialists teaching in middle school and/or high school, and 39% were primarily elementary specialists teaching general music in grades K-5.

Regarding number of years teaching, 18% had taught 1-5 years, 22% had taught 6-10 years, 14% had taught 11-15 years, 10% had taught 16-20 years, and 36% had taught more than 20 years.

Data Collection Devices and Procedures

The researcher collected data from a convenience sample of in-service music educators ($N = 151$) administered online through a web-based survey instrument. Although the survey included a request for basic demographic information, the source of the survey request was not required. Using a five point Likert-type scale, the respondents were asked to indicate how often they used specific music theory concepts and skills in their professional lives and also how often they taught the same concepts and skills to students or to others. Listed as 58 items, these music theory concepts and skills ranged from fundamental to upper level concepts and skills. The 58 items derived from the music theory sequence curriculum from the researcher's institution. The textbooks used at that institution comprised the curriculum.[3] Respondents selected "never or almost never," "seldom," "sometimes," "often," or "always or almost always" for each item. Respondents gave separate answers for how often they used each music theory concept and skill and how often they taught each one.

In addition, the online survey included the following open-ended question: "Please comment on your perception of the relevance of your music theory/aural skills training (areas of too much or too little emphasis) or other pertinent thoughts." This question was included to identify emergent themes and to address the research questions.

Analysis and Results

The means were determined by assigning numbers 1-5 respectively to the five frequency categories, allowing the 58 items to be ranked. Tables 1 and 2 show the composite ranking of all 58 items. Table 1 ranks the 58 items in order of most used by the in-service music educators and Table 2 ranks the 58 items in order of most taught by the in-service music educators. As might be expected, the most highly ranked items used and taught were fundamental concepts and skills. Most used were key signatures, sight-singing melodies, meter, intervals, chords, and scales. Most taught were meter, sight-singing melodies, solfège syllables, intervals, key signatures, and scales. An interesting observation is that the ranking from highest to lowest seems to reflect the movement through the theory sequence curriculum. In other words, the items deemed least used and least taught were those typically included in the higher levels of the curriculum, such as set theory, serialism, atonality, counterpoint, etc. One exception to this observation is that figured bass, which is typically taught fairly early in the sequence, was ranked #51 in both Tables 1 and 2 by the respondents, indicating a perception of irrelevance. Also notable in both Tables 1 and 2 is that the highest ranked creative item was the ability to compose a simple melody, ranked #13 and #12, respectively.

Table 1

Rank of Music Theory Concepts and Skills Used *by In-Service Music Educators*

Rank	Concepts and skills	Mean
1	Understanding of key signatures	4.66
2	Ability to sight-sing melodies	4.56
3	Knowledge of simple and compound meter	4.53
4	Knowledge of intervals	4.52
5	Knowledge of chords	4.44
6	Knowledge of scales	4.43
7	Ability to aurally recognize intervals	4.22
8	Ability to aurally recognize chord qualities	3.95

9	Ability to audiate	3.95
10	Ability to detect score errors	3.81
11	Solfège syllables	3.61
12	Knowledge of sequences / sequential patterns	3.57
13	Ability to compose a simple melody	3.54
14	Rhythmic dictation	3.53
15	Ability to aurally identify forms	3.39
16	Knowledge of cadence types	3.39
17	Ability to hear harmonic intervals (played at the same time)	3.37
18	Knowledge of instruments' practical ranges	3.36
19	Knowledge of voice leading practices	3.34
20	Knowledge of modulations	3.33
21	Ability to write parts for various age groups and ensembles	3.32
22	Understanding of secondary dominant and leading tone chords	3.29
23	Ability to read lead sheet symbols	3.27
24	Ability to analyze large-scale forms (Sonata Allegro, Rondo, etc.)	3.26
25	Ability to hear triads in inversions	3.25
26	Ability to compose original material	3.24
27	Ability to use Roman numerals to analyze harmonic progressions	3.22
28	Knowledge of non-harmonic tones	3.21
29	Knowledge of non-diatonic scales (pentatonic, whole-tone, hexatonic, octatonic)	3.16
30	Melodic dictation	3.15
31	Knowledge of asymmetrical meters	3.15
32	Ability to transpose to and from concert pitch for all instruments	3.11
33	Ability to sight-sing chromatic melodies	3.11
34	Ability to analyze modulations	2.99
35	Knowledge of fugue	2.92
36	Knowledge of counterpoint	2.85
37	Knowledge of modes	2.78
38	Functional knowledge of instruments in part-writing	2.75
39	Ability to recognize aurally different types of 7th chords	2.71
40	Ability to understand and hear altered chords (augmented 6th, Neapolitans, and borrowed chords)	2.66
41	Knowledge of chromatic modulations	2.65
42	Ability to compose 4-part harmony	2.64
43	Ability to read C clefs	2.61
44	Ability to do harmonic dictation	2.61
45	Curwen hand signs	2.58
46	Ability to hear mode color tones	2.45
47	Ability to aurally identify modes	2.38
48	Understanding of 20th century rhythmic elements (isorhythm, tempo modulations, polymeter, poly tempo)	2.33
49	Knowledge of 2-part inventions	2.31

50	Ability to sight-sing atonal melodies	2.29
51	Ability to read figured bass	2.26
52	Ability to dictate multiple voices (sop. bass dictation)	2.23
53	Understanding of vertical dimensions of 20th century composition (tertian, extended tertian, cluster, split member, open fifth, polychord, whole-tone, and mixed interval chords)	2.11
54	Understanding of minimalism	2.03
55	Knowledge of aleatory (chance/choice) compositions	1.88
56	Understanding of set theory	1.75
57	Understanding of serialism	1.66
58	Ability to write counterpoint in 1st, 2nd, 3rd, and 5th species.	1.63

Table 2

Rank of Music Theory Concepts and Skills Taught *by In-Service Music Educators*

Rank	Concepts and Skills	Mean
1	Knowledge of simple and compound meter	3.85
2	Ability to sight-sing melodies	3.68
3	Solfège syllables	3.65
4	Knowledge of intervals	3.62
5	Understanding of key signatures	3.49
6	Knowledge of scales	3.43
7	Knowledge of chords	3.30
8	Ability to Audiate	3.30
9	Rhythmic dictation	3.22
10	Ability to aurally recognize intervals	3.16
11	Ability to aurally recognize chord qualities	2.96
12	Ability to compose a simple melody	2.91
13	Knowledge of sequences / sequential patterns	2.79
14	Curwen hand signs	2.79
15	Ability to compose original material	2.64
16	Melodic dictation	2.60
17	Knowledge of non-diatonic scales (pentatonic, whole-tone, hexatonic, octatonic)	2.57
18	Ability to aurally identify forms	2.54
19	Ability to analyze large-scale forms (Sonata Allegro, Rondo, etc.)	2.52
20	Ability to hear triads in inversions	2.43
21	Knowledge of modulations	2.39
22	Knowledge of asymmetrical meters	2.37
23	Understanding of secondary dominant and leading tone chords	2.35
24	Knowledge of non-harmonic tones	2.34
25	Ability to detect score errors	2.30
26	Ability to hear harmonic intervals (played at the same time)	2.26

27	Knowledge of voice leading practices	2.24
28	Knowledge of instruments' practical ranges	2.21
29	Knowledge of cadence types	2.15
30	Ability to use Roman numerals to analyze harmonic progressions	2.09
31	Ability to sight-sing chromatic melodies	2.07
32	Knowledge of modes	2.07
33	Knowledge of fugue	2.05
34	Ability to read lead sheet symbols	2.02
35	Ability to transpose to and from concert pitch for all instruments	1.98
36	Ability to read C clefs	1.95
37	Ability to hear mode color tones	1.91
38	Ability to analyze modulations	1.88
39	Ability to recognize aurally different types of 7th chords	1.81
40	Understanding of 20th century rhythmic elements (isorhythm, tempo modulations, polymeter, poly tempo)	1.77
41	Functional knowledge of instruments in part-writing	1.76
42	Knowledge of counterpoint	1.75
43	Ability to do harmonic dictation	1.75
44	Ability to compose 4-part harmony	1.70
45	Knowledge of chromatic modulations	1.69
46	Ability to understand and hear altered chords (augmented 6th, Neapolitans, and borrowed chords)	1.67
47	Ability to aurally identify modes	1.67
48	Ability to write parts for various age groups and ensembles	1.64
49	Knowledge of aleatory (chance/choice) compositions	1.63
50	Understanding of vertical dimensions of 20th century composition (tertian, extended tertian, cluster, split member, open fifth, polychord, whole-tone, and mixed interval chords)	1.61
51	Ability to read figured bass	1.61
52	Knowledge of 2-part inventions	1.58
53	Understanding of minimalism	1.57
54	Ability to sight-sing atonal melodies	1.56
55	Ability to dictate multiple voices (sop. bass dictation)	1.47
56	Understanding of set theory	1.36
57	Understanding of serialism	1.33
58	Ability to write counterpoint in 1st, 2nd, 3rd, and 5th species.	1.26

The researcher also ranked the music theory concepts and skills within the three areas of

secondary choral, secondary instrumental, and elementary general music emphasis. As the

perception of the most relevant skills and the least relevant skills would be the most informative

to curricular change, the researcher compared outside rankings. Tables 3 and 4 extract the music

theory concepts and skills with the highest (10) mean scores divided by area (choral, instrumental, elementary). Of the items identified as most used in Table 3, "Understanding of key signatures" ranked #1 by all three groups. Other items present on all three lists were "ability to sight-sing melodies," "knowledge of simple and compound meter," "knowledge of intervals," "knowledge of scales," and "knowledge of chords."

Table 3

Top Ten Ranking of Concepts and Skills Used by Area

Rank	Choral	M	Instrumental	M	Elementary	M
1	Understanding of key signatures	4.90	Understanding of key signatures	4.89	Understanding of key signatures	4.40
2	Ability to sight-sing melodies	4.76	Knowledge of scales	4.67	Ability to sight-sing melodies	4.40
3	Knowledge of simple and compound meter	4.73	Knowledge of instruments' practical ranges	4.61	Knowledge of simple and compound meter	4.33
4	Knowledge of intervals	4.71	Ability to transpose to and from concert pitch for all instruments	4.61	Knowledge of intervals	4.31
5	Knowledge of scales	4.66	Knowledge of intervals	4.44	Knowledge of chords	4.18
6	Knowledge of chords	4.66	Knowledge of chords	4.39	Knowledge of scales	4.00
7	Ability to aurally recognize intervals	4.32	Knowledge of simple and compound meter	4.39	Rhythmic dictation	3.98
8	Solfège syllables	4.10	Ability to aurally recognize chord qualities	4.11	Ability to audiate	3.89
9	Ability to aurally recognize chord qualities	4.02	Ability to sight-sing melodies	4.06	Ability to aurally recognize intervals	3.82
10	Ability to detect score errors	4.02	Rhythmic dictation	4.06	Ability to compose a simple melody	3.71

In Table 4, "knowledge of simple and compound meter" was the only item in the top ten for all three groups. The three groups have different emphases in what they find most relevant to teach.

Table 4

Top Ten Ranking of Concepts and Skills Taught by Area

Rank	Choral	M	Instrumental	M	Elementary	M
1	Ability to sight-sing melodies	4.37	Understanding of key signatures	4.06	Rhythmic dictation	3.93
2	Solfège syllables	4.34	Knowledge of scales	3.94	Solfège syllables	3.45
3	Knowledge of simple and compound meter	4.08	Knowledge of simple and compound meter	3.78	Knowledge of simple and compound meter	3.36
4	Understanding of key signatures	4.00	Knowledge of intervals	3.61	Ability to audiate	3.34
5	Knowledge of intervals	3.95	Rhythmic dictation	3.56	Ability to compose a simple melody	3.29
6	Curwen hand signs	3.76	Knowledge of chords	3.33	Ability to sight-sing melodies	3.18
7	Ability to aurally recognize intervals	3.65	Ability to aurally recognize chord qualities	3.22	Ability to compose original material	2.89
8	Knowledge of scales	3.59	Solfège syllables	3.06	Melodic dictation	2.80
9	Ability to audiate	3.48	Knowledge of instruments' practical ranges	3.06	Curwen hand signs	2.80
10	Knowledge of chords	3.46	Ability to transpose to and from concert pitch for all instruments	3.06	Ability to aurally identify forms	2.73

Tables 5 and 6 extract the music theory concepts and skills with the lowest (10) mean scores divided by area. In Table 5, "ability to aurally identify modes," "knowledge of two-part inventions," "understanding of vertical dimensions of 20th century composition," "understanding of set theory," "understanding of serialism," "ability to write counterpoint," and "understanding of minimalism" were all included in the lowest group of those items used.

Table 5

Bottom Ten Ranking of Concepts and Skills Used by Area

Rank	Choral	M	Instrumental	M	Elementary	M
49	Ability to dictate multiple voices (sop. bass dictation)	2.44	Understanding of minimalism	2.11	Understanding of set theory	1.82
50	Ability to aurally identify modes	2.44	Ability to read figured bass	2.06	Ability to dictate multiple voices (sop. bass dictation)	1.78
51	Knowledge of 2-part	2.39	Knowledge of 2-part	2.06	Knowledge of 2 part	1.78

	inventions		inventions		inventions	
52	Understanding of vertical dimensions of 20th century composition (tertian, extended tertian, cluster, split member, open fifth, polychord, whole-tone, and mixed interval chords)	2.22	Ability to aurally identify modes	2.06	Ability to aurally identify modes	1.78
53	Knowledge of aleatory (chance/choice) compositions	2.15	Understanding of set theory	2.06	Ability to understand and hear altered chords (augmented 6th, Neapolitans, and borrowed chords)	1.73
54	Ability to read figured bass	2.00	Understanding of vertical dimensions of 20th century composition (tertian, extended tertian, cluster, split member, open fifth, polychord, whole-tone, and mixed interval chords)	2.00	Understanding of minimalism	1.71
55	Understanding of set theory	1.73	Ability to write counterpoint in 1st, 2nd, 3rd, and 5th species.	1.72	Knowledge of aleatory (chance/choice) compositions	1.64
56	Understanding of serialism	1.73	Ability to sight-sing atonal melodies	1.72	Understanding of vertical dimensions of 20th century composition (tertian, extended tertian, cluster, split member, open fifth, polychord, whole-tone, and mixed interval chords)	1.58
57	Ability to write counterpoint in 1st, 2nd, 3rd, and 5th species.	1.71	Knowledge of aleatory (chance/choice) compositions	1.56	Understanding of serialism	1.27
58	Understanding of minimalism	1.63	Understanding of serialism	1.44	Ability to write counterpoint in 1st, 2nd, 3rd, and 5th species.	1.24

Of the items ranked lowest as relevant to teach in Table 6, "ability to dictate multiple voices," "understanding of serialism," and "ability to write counterpoint" appeared for all three groups.

Table 6

Bottom Ten Ranking of Concepts and Skills Taught by Area

Rank	Choral	M	Instrumental	M	Elementary	M
49	Ability to aurally identify modes	1.78	Ability to compose 4-part harmony	1.56	Knowledge of counterpoint	1.18
50	Ability to read figured bass	1.71	Knowledge of counterpoint	1.56	Ability to dictate multiple voices (sop. bass dictation)	1.18
51	Ability to dictate multiple voices (sop. bass dictation)	1.68	Ability to dictate multiple voices (sop. bass dictation)	1.56	Ability to compose 4-part harmony	1.16
52	Knowledge of chromatic modulations	1.68	Knowledge of aleatory (chance/choice) compositions	1.56	Understanding of secondary dominant and leading tone chords	1.16
53	Understanding of vertical dimensions of 20th century composition (tertian, extended tertian, cluster, split member, open fifth, polychord, whole-tone, and mixed interval chords)	1.68	Understanding of minimalism	1.56	Ability to analyze modulations	1.13
54	Ability to understand and hear altered chords (augmented 6th, Neapolitans, and borrowed chords)	1.65	Understanding of set theory	1.50	Ability to aurally identify modes	1.11
55	Ability to sight-sing atonal melodies	1.59	Understanding of vertical dimensions of 20th century composition (tertian, extended tertian, cluster, split member, open fifth, polychord, whole-tone, and mixed interval chords)	1.44	Knowledge of chromatic modulations	1.11
56	Understanding of set theory	1.46	Ability to sight-sing atonal melodies	1.39	Ability to understand and hear altered chords (augmented 6th, Neapolitans, and borrowed chords)	1.07
57	Understanding of serialism	1.44	Ability to write counterpoint in 1st, 2nd, 3rd, and 5th species.	1.33	Ability to write counterpoint in 1st, 2nd, 3rd, and 5th species.	1.04
58	Ability to write counterpoint in 1st, 2nd, 3rd, and 5th species.	1.34	Understanding of serialism	1.28	Understanding of serialism	1.04

Discussion

The present study focused on the participants' perceptions of the relevance of music theory concepts and skills. The results may be informative on two levels. First, considering the limited number of curricular hours available in the music education degree, a de-emphasis or exclusion from the music theory curriculum of those concepts and skills perceived as less relevant or even irrelevant might be prudent. Additionally, it might be beneficial to study those concepts and skills identified as more relevant in greater depth. Specific to this consideration, it was notable that those elements related to twentieth century theory (serialism, set theory, minimalism, aleatory music, atonality, harmonic practices) were consistently among the least used or taught. One respondent described twentieth century music knowledge as "useless in my personal life and in my teaching. My college professors all stressed it but I have found no use for it." Another stated, "I have never used any 20th century technique (compositional or analytical) as a practicing musician."

Other areas considered to be overemphasized by some were counterpoint, figured bass, and part-writing. One respondent said, "Focus on traditional theory, part-writing, figured bass, etc. have taken precedence over hearing and sight-singing skills." Another respondent described his music theory training as being "entirely concerned with 4 part harmony writing and the use of figured bass." He continued, "This was an extreme waste of time." For those theory sequence programs that include an entire semester of twentieth century theory or counterpoint, or that devote extended time to other content areas used infrequently by in-service music educators, perhaps a relevance assessment with regard to music theory content in the music education degree would be helpful.

A music education student may spend 200 contact hours in music theory coursework, (based upon four lower level theory courses and one upper level theory course with 40 contact hours per semester). Institutions vary on configurations of the music theory sequence and the time spent on music theory concepts and skills as specified in this research or other content. However, these results may be informative for balancing the amount of time spent on specific topics and skills.

In addition to comments regarding overemphasized elements, respondents also noted areas perceived to be underemphasized. One is a need for more pedagogical application. Comments included: "More time on choral methodology would have been much more practical"; "not enough instruction time spent on how to teach others to sight read"; "I didn't learn HOW to teach kids what a quarter note is, etc."

The most obvious emergent theme from the open-ended comments of the survey was the importance of aural skills and the need for higher levels of competency. Several respondents were compelled to emphasize the lack of thorough training in aural skills and the absolute necessity of this proficiency in the teaching field. One respondent noted that after studying in two large universities and a conservatory, "at no place was enough emphasis given to proper training of the ear." Other comments included: "I did not have enough aural training"; "I was tested rather than taught to sight read"; "too little training in how to implement my theory and aural skills into my work as a conductor"; "more training in aural skills relevant to score study… error detection, particularly"; "more rigorous in aural skill development"; "error detection – something that wasn't taught very much in my undergraduate program"; "Aural skills in our music education model are sorely lacking"; "I would have found better use with learning the following in college: error detection, score study, knowledge of individual instruments."

Error detection may be an underutilized skill and content area (Johnson, 2010). Training in this skill is implicit, but not specified. Aural skills will help error detection, but there is often a lack of emphasis on specific error detection exercises.. Depending upon the amount of time spent in a particular program on twentieth century content compared to advanced aural skills and error detection, perhaps a music education program could benefit from a shift in emphasis.

The second implication informed by the data relates to the pedagogical issue of relevance. Upon scrutiny of these results, some elements perceived by the respondents as less relevant or irrelevant may arguably need to remain and even emphasized in the music education curriculum. In such instances, it behooves the music theory faculty to help the students make applicable connections in order to perceive relevance. In the words of one respondent, we may be "failing to bridge the gap between theory and practice." For example, rhythmic dictation was among the top ten among instrumental and elementary music educators, but not in the choral area. Findings among high school singers that rhythm tasks consistently fall below pitch tasks, regardless of the difficulty levels of either type of task (Henry, 2011) may indicate a need to emphasize the relevance of rhythm training among vocal music education students.

Conclusions

Because data collection utilized convenience samples, these results are not definitively representative of the larger population. Further research using random samples would be necessary. Additional research on the relevance of music theory concepts and skills as perceived by undergraduate music education students might provide predictive data. The 58 items selected from the curriculum of the researcher's institution may vary in other institutions, so further study might include additional elements to test relevancy. However, the current study may still inform those programs that contain the listed content and may be a preliminary inquiry for others. Since

36% of the respondents had been teaching for over 20 years, a larger sample of music educators more recently trained might provide different results if music teacher training programs have evolved since the beginning of their careers. However, the depth of experience represented is also notable. Suggestions for further study would also include surveys of college and university music education and music theory faculty. Their perceptions on topic relevance and attitudes toward the music theory sequence in music teacher education programs would also inform the discussion.

Results suggest that typical music theory sequence content may not align with the needs of current in-service music educators. This is not to suggest that all content should have an immediate transference to application. As one respondent stated, "One may not directly use a skill and still benefit from the knowledge of it and the sensitivities one receives from having studied that skill." There is a defensible philosophical argument that higher education in music theory must include content recognizing the evolution of the creative process, which would include instruction in such processes as serialism and set theory. Exposure to these and other topics may have value to any musician beyond daily use. However, as one scrutinizes the music theory curriculum for application to the music education degree, relevance as perceived by in-service music educators may be an important factor in equipping future music educators for success. Considerations for change are not simply to include or exclude, but also relate to focus, depth, and emphasis.

Perhaps reconsidering the "one size fits all" mentality of many music theory sequences may be advantageous to students. Students majoring in composition, vocal performance, instrumental performance, or conducting will apply music theory content and aural skills in very different ways at higher levels. A similar study that surveys graduates in these music disciplines

regarding the perceived relevance of their collegiate music theory studies would be informative. Basic music theory and aural skills will be the foundation for all, but advanced instruction may require more specificity. For music education majors, instruction emphasizing music theory pedagogy or advanced aural skills might better prepare them as music educators. This solution can be problematic for those programs with limited enrollments in which dividing students into these discrete groups could jeopardize courses "making" or cause faculty overloads. Offering specialized music theory courses as electives could strain the legislative mandates to keep credit hours down. However, grouping students in different sections of the same course allowing for variations in emphases could be a feasible alternative. Offering specialized courses on the master's degree level is a possibility, but questions the responsibility of the music education programs to adequately prepare future music educators without the necessity to seek an advanced degree.

Music teacher education is not exclusively the responsibility of those who teach music methods courses, as all aspects of the music education program will contribute to the ultimate musicianship of an individual. The contribution of the music theory faculty to the success of future music educators is foundational and central. In-service music educators will use and will teach that which they find to be relevant to their circumstance and the author hopes that this preliminary study will inform the dialogue of those who contribute to the process of educating our future music teachers.

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[1]A term used to describe that body of Western European music literature, primarily from the 18th and 19th centuries, which is commonly referred to as "classical music."

[2]That period of time that encompassed the Baroque, Classical, and Romantic periods of western music history.

[3] Textbooks referenced are Music in Theory and Practice, Vols. I and II (Benward & Saker, 2008), Ear Training: A Technique for Listening (Benward & Kolosick, 2009), Music for Sight Singing (Ottman & Rogers, 2007), and Materials and Techniques of Twentieth-Century Music (Kostka, 2011).

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Vicky V. Johnson (vjohnson@tarleton.edu) is an Assistant Professor of Music at Tarleton State University in Stephenville, Texas. She is a graduate of Boston University with a DMA in Music Education, Sam Houston State University with an MA in Music Theory and Tarleton State University with a BM in Music Education. Her primary interests are in music theory and music education.