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Promoting Metacognitive Reflection in Music Theory Instruction

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By Anna Ferenc

Over the past few decades, a significant body of literature has emerged in psychology and education research that documents the importance of metacognition to the process of learning and advocates for its development through reflection in order to promote deeper, more thoughtful, and self-regulated learning.[1] Reflection is particularly valued in contexts such as teacher education, nursing, social work, and business, where it is used to foster learning through experience and to connect experience to theoretical course work. However, the importance of metacognition applies to learning across all disciplines, and it has been adopted even in domains such as mathematics and science that are less experientially-based and have tended to view reflective practice as subordinate to subject knowledge and skill.[2]

In the domain of music, discussions of reflection and/or metacognition appear particularly in the literature on teacher training, music teaching at primary and secondary levels, and performance.[3] Colleen Conway and Thomas Hodgman

[1] See, for example, Robert J. Marzano et al., *Dimensions of Thinking: A Framework for Curriculum and Instruction* (Alexandria, VA: Association for Supervision and Curriculum Development, 1988); Douglas J. Hacker, John Dunlosky, and Arthur C. Graesser, eds., *Metacognition in Educational Theory and Practice* (Mahwah, NJ: Lawrence Erlbaum Associates, 1998); John Dunlosky and Janet Metcalfe, *Metacognition* (Los Angeles: Sage, 2009); Douglas J. Hacker, John Dunlosky, and Arthur C. Graesser, eds., *Handbook of Metacognition in Education* (New York: Routledge, 2009); and Matthew Kaplan et al., eds., *Using Reflection and Metacognition to Improve Student Learning* (Sterling, VA: Stylus, 2013).

[2] See, for example, Christina Kaune, "Reflection and Metacognition in Mathematics Education—Tools for the Improvement of Teaching Quality," *ZDM* 38, no. 4 (2006): 350–360; and Kimberly D. Tanner, "Promoting Student Metacognition," *CBE—Life Sciences Education* 11 (2012): 113–20.

[3] See, for example, Eunice Boardman, "The Relation of Music Study to Thinking," in *Dimensions of Musical Thinking*, ed. Eunice Boardman (Reston, VA: Music Educators National Conference, 1989), 1–7; Lenore Pogonowski, "Metacognition: A Dimension of Musical Thinking,"

acknowledge that very little has been written within music on teaching and learning in higher education. In their relatively recent text, *Teaching Music in Higher Education*, the authors do not mention metacognition, but they do comment on reflection as a tool for learner-centred instruction and recognize reflection as an important skill for instructor development. Indeed, the authors frame their text with opening and closing comments advising college professors to reflect initially on their own learning experiences before they begin teaching and then to continue doing so throughout their careers.[4]

Addressing college-level music theory instruction, Lyle Davidson, Larry Scripp, and Alan Fletcher discuss the implementation of reflective writing in an introductory sight-singing course, and Marilyn Egan explores the effects of applying metacognitive strategies to individual learning-style preferences in a freshman musicianship curriculum.[5] These initial studies have not been followed by more exploration of reflection or metacognition in music theory pedagogy. This may be because the discipline of music theory (like mathematics) has traditionally favored an approach to teaching that drills subject knowledge and skill and is supported by teaching materials that include an abundance of

in *Dimensions of Musical Thinking*, 9–32; Richard Parncutt and Gary McPherson, eds., *The Science and Psychology of Music Performance: Creative Strategies for Teaching and Learning* (New York: Oxford University Press, 2002); Wendell Hanna, "The New Bloom's Taxonomy: Implications for Music Education," *Arts Education Policy Review* 108, no. 4 (2007): 7–16; Peter R. Webster, "Construction of Music Learning," in *MENC Handbook of Research on Music Learning,* eds. Richard Colwell and Peter R. Webster, vol. 1, *Strategies,* (New York: Oxford University Press, 2011), 35–83; Meghan Bathgate, Judith Sims-Knight, and Christian Schunn, "Thoughts on Thinking: Engaging Novice Music Students in Metacognition," *Applied Cognitive Psychology* 26 (2012): 403–9; Carol W. Benton, "Promoting Metacognition in Music Classes," *Music Educators Journal* 100, no. 2 (2013): 52–9; and Benton, *Thinking about Thinking: Metacognition for Music Learning* (Lanham, MD: Rowman & Littlefield Education, 2014).

[4] Colleen M. Conway and Thomas M. Hodgman, *Teaching Music in Higher Education* (New York: Oxford University Press, 2009), 2 and 230–1.

[5] Lyle Davidson, Larry Scripp, and Alan Fletcher, "Enhancing Sight-Singing Skills Through Reflective Writing: A New Approach to the Undergraduate Theory Curriculum," *Journal of Music Theory Pedagogy* 9 (1995): 1–30; Marilyn M. Egan, "Effects of Metacognition on Music Achievement of University Students" (PhD diss., Kent State University, 1995).

practice exercises in workbooks and online. In addition, there are concerns that prose-writing assignments take time to grade, and that it is difficult to incorporate something that appears extraneous into an already crowded theory curriculum.[6] Although directed at music classes in general, Carol Benton's observation that "because of time limitations, most instruction focuses on content rather than on learning strategies for acquiring content knowledge," may be applied particularly to the music theory classroom.[7]

Challenging this mindset is Michael Rogers's observation over thirty years ago in his go-to text on music theory pedagogy: "Music theory, in my opinion, is not a *subject* like pharmacy with labels to learn and prescriptions to fill, but it is an activity—more like composition or performance. The activity is *theorizing*: i.e., thinking about what we hear and hearing what we think about—and I would include even thinking about what we think."[8] By including "thinking about what we think," Rogers invokes metacognition and highlights its importance to theorizing music, though he does not use the term specifically and does not suggest how to facilitate "thinking about what we think" when instructing music theory. This article takes up this cause, beginning with a theoretical framework within which to understand metacognition and reflection. It then describes a strategy for incorporating metacognitive reflection into an undergraduate music theory core course that builds upon and embeds easily into course content, and then investigates the pedagogical value of this strategy by analyzing the content of student reflections on learning.

Metacognition and Reflection

In what is perhaps the most comprehensive overview of research on metacognition to date, Pina Tarricone describes metacognition as a complex construct that has intrigued cognitive psychologists

[6] Deron L. McGee, "The Power of Prose: Writing in the Undergraduate Music Theory Curriculum," *Journal of Music Theory Pedagogy* 7 (1993): 102; Davidson, Scripp, and Fletcher, "Enhancing Sight-Singing Skills Through Reflective Writing," 20; and Courtenay L. Harter, "Bridging Common Practice and the Twentieth-Century: Cadences in Prokofiev's Piano Sonatas," *Journal of Music Theory Pedagogy* 23 (2009): 57.

[7] Benton, *Thinking about Thinking*, 138.

[8] Michael R. Rogers, *Teaching Approaches in Music Theory: An Overview of Pedagogical Philosophies* (Carbondale: Southern Illinois University Press, 1984), 7.

and educational researchers for decades. The multifaceted body of work that underpins the strong and well-developed conceptual foundation of metacognition also makes it difficult to construct a universal definition of the concept and sometimes to distinguish clearly between what is *meta* and what is *cognitio*n.[9] To differentiate the two, Tarricone generalizes that cognition is a "constant flow of information" often derived from a person's immediate external reality, whereas metacognition comprises second-order cognitions always derived from within, including the "knowledge and awareness of [cognitive] processes and the monitoring and control of such knowledge and processes."[10]

Psychologist John Flavell is recognized as the originator of the term *metacognition*. In a brief but influential article published in 1976, he defined the term and illustrated it with examples:

> "Metacognition" refers to one's knowledge concerning one's own cognitive processes and products or anything related to them.… For example, I am engaged in metacognition…if I notice that I am having more trouble learning *A* than *B*; if it strikes me that I should double-check *C* before accepting it as fact; if it occurs to me that I had better scrutinize each and every alternative in any multiple-choice type task situation before deciding which is the best one; if I become aware that I am not sure what the experimenter really wants me to do; if I sense that I had better make note of *D* because I may forget it; if I think to ask someone about E to see if I have it right. …Metacognition refers…to the active monitoring and consequent regulation and orchestration of these processes in the relation to the cognitive objects or data on which they bear, usually in the service of some concrete goal or objective.[11]

[9] Pina Tarricone, *The Taxonomy of Metacognition* (Hove and New York: Psychology Press, 2011), 3–5.

[10] Ibid., 1.

[11] John H. Flavell, "Metacognitive Aspects of Problem Solving," in *The Nature of Intelligence,* ed. Lauren B. Resnick (Hillsdale, NJ: Lawrence Erlbaum Associates, 1976), 232.

According to Flavell's description, metacognition is a two-part construct: it involves knowledge of cognition as well as monitoring and regulating such knowledge. This understanding is the basis for subsequent explorations of metacognition in the field of education that have added self-awareness and self-evaluation to its monitoring component, and it is a point of departure for theories on self-regulated learning.[12] This definition remains intact in Benton's recent adaptation and generalization of metacognition for educational purposes: "To be aware of one's thought processes and exert control over those processes in pursuit of learning is to use metacognition."[13] In the psychological literature, Flavell's original definition has been paraphrased more succinctly as, for example, "thinking about one's own thinking" or "cognitions about cognitions"; "thoughts about thoughts, knowledge about knowledge, or reflections about actions"; "knowledge and control of one's own cognitive system"; or "awareness and control over your own thinking behaviour."[14]

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[12] See, for example, Barry J. Zimmerman, "Self-Regulated Learning and Academic Achievement: An Overview," *Educational Psychologist* 25, no. 1 (1990), 3–17; Dale H. Schunk and Barry J. Zimmerman, eds., *Self-Regulation of Learning and Performance: Issues and Educational Applications* (Hillsdale, NJ: Lawrence Erlbaum Associates, 1994); Monique Boekaerts, "Self-Regulated Learning: A New Concept Embraced by Researchers, Policy Makers, Educators, Teachers, and Students," *Learning and Instruction* 7, no. 2 (1997): 161–86; Barry J. Zimmerman and Dale H. Schunk, eds., *Self-Regulated Learning and Academic Achievement: Theoretical Perspectives,* 2nd ed. (Mahwah, NJ: Lawrence Erlbaum Associates, 2001); and Gary E. McPherson and Barry J. Zimmerman, "Self-Regulation of Musical Learning: A Social Cognitive Perspective on Developing Performance Skills," in *MENC Handbook of Research on Music Learning,* eds. Richard Colwell and Peter R. Webster, vol. 2, *Applications* (New York: Oxford University Press, 2011), 130–75.

[13] Benton, *Thinking about Thinking,* 27.

[14] Petros Georghiades, "From the General to the Situated: Three Decades of Metacogntition," *International Journal of Science Education* 26, no. 3 (2004): 365; Franz E. Weinert, "Introduction and Overview: Metacognition and Motivation as Determinants of Effective Learning and Understanding," in *Metacognition, Motivation, and Understanding,* eds. Franz E. Weinert and Rainer H. Kluwe (Hillside, NJ: Lawrence Erlbaum, 1987), 8; Ann Brown, "Metacognition, Executive Control, Self-Regulation, and Other More Mysterious Mechanisms," in *Metacognition, Motivation,*

Acknowledging Flavell's terminological foundation, Tarricone nevertheless traces the historical roots of metacognition back to philosophers whose theories of reflection have contributed to the conceptualization of metacognition, including Socrates, Plato, Aristotle, Augustine, Descartes, Spinoza, and Locke. As a twentieth-century precursor to Flavell, Tarricone recognizes the philosopher, psychologist, and educational reformer John Dewey, whose writing on reflective thinking encompasses cognitive processes such as awareness, monitoring, and regulation as integral aspects of problem solving.[15] The work of Dewey is a point of convergence for the contemporary histories of metacognition and reflection.

The theorizing of reflection as a component of the process of learning finds its source also in Dewey's foundational publication, *How We Think: A Restatement of the Relation of Reflective Thinking to the Educative Process*.[16] Dewey regarded reflection as an indispensable part of the kind of thinking involved in purposeful inquiry. Challenging the commonplace view of education at the time (and often now) as a content-centred enterprise in which knowledge is imparted from teachers who have it to students who are passively willing to accept it, he advocated a learner-centred approach far in advance of calls for educational reform in the 1980s, noting, "Since learning is something that the pupil has to do himself and for himself, the initiative lies with the learner. The teacher is a guide and director; he steers the boat, but the energy that propels it must come from those who are learning."[17] From this perspective, he advocated for reflective thinking to be an educational aim and understood it as "the kind of thinking that consists in turning a subject over in the mind and giving it serious and consecutive consideration."[18] Garnering particular attention was his claim that

and Understanding, 66; and Robin Fogarty, *How to Teach for Metacognitive Reflection* (Palatine, IL: IRI/Skylight Publishing, 1994), viii.

[15] Tarricone, *The Taxonomy of Metacognition*, 15–16.

[16] John Dewey, *How We Think: A Restatement of the Relation of Reflective Thinking to the Educative Process* (Boston: D.C. Heath and Company, 1933). This publication is an extensively rewritten version of an earlier text by Dewey titled *How We Think* (Boston: D. C. Heath and Company, 1910).

[17] Dewey, *How We Think: A Restatement*, 36. On educational reform in the 1980s, see Robert J. Marzano et al., *Dimensions of Thinking: A Framework for Curriculum and Instruction*.

[18] Dewey, *How We Think: A Restatement*, 3.

"learning is learning to think," and his recognition that thinking, and by extension learning, is a psychological process distinct from products to which it may lead.[19] He notes the fundamental role of reflection in this process (italics are Dewey's):

> Of course intellectual learning includes the amassing and retention of information. But information is an undigested burden unless it is understood. It is *knowledge* only as its material is *comprehended*. And understanding, comprehension, means that the various parts of the information acquired are grasped in their relations to one another — a result that is attained only when acquisition is accompanied by constant reflection upon the meaning of what is studied.[20]

Dewey's claim that reflection is responsible for turning information into knowledge has been explored in subsequent investigations into reflective practice and its role in learning. Key studies that transcend disciplinary boundaries include work by David Kolb, who developed the Kolb cycle of experiential learning; Donald Schön, who examined the role of reflection in a range of professional settings, leading to the concepts of reflection-in-action and reflection-on-action; Jack Mezirow, who has investigated how critical reflection leads to transformative learning; and Jennifer Moon, who has taken a broad view of reflection in order to explore its relationship to learning.[21]

Recent definitions of reflection include "a conscious exploration of one's own experiences," where experiences may be structured or unstructured, inside or outside a classroom, and "a mental process with purpose and/or outcome in which manipulation

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[19] Ibid., 78.

[20] Ibid., 78–79.

[21] David Kolb, *Experiential Learning: Experience as the Source of Learning and Development,* 2nd ed. (Upper Saddle River, NJ: Pearson Education, 2015); Donald Schön, *The Reflective Practitioner*: *How Professionals Think in Action* (New York: Basic Books, 1983), and *Educating the Reflective Practitioner: Toward a New Design for Teaching and Learning in the Professions* (San Francisco: Jossey-Bass, 1987); Jack Mezirow, *Transformative Dimensions of Adult Learning* (San Fransisco, CA: Jossey-Bass, 1991); and Jennifer Moon, *Reflection in Learning & Professional Development: Theory & Practice* (London: Kogan Page, 1999).

of meaning is applied to relatively complicated or unstructured ideas in learning or to problems for which there is no obvious solution."[22] As suggested by these definitions, the application of reflection to teaching and learning continues to be intertwined with metacognition. For some researchers, metacognition and reflection are overlapping constructs when they are acts of evaluative thinking (assessing what you know as well as how and why you know it). In a nontechnical sense, the two terms are synonymous and are used interchangeably by educators who understand reflection as a type of metacognitive activity. Indeed, reflection is required to facilitate metacognitive processes, as recognized by Tarricone when she asserts that "reflection is the quintessence of metacognition."[23] However, not all reflection necessarily promotes metacognition—to so do, it must be purposely focused on verbalizing how one learns or generalizes knowledge, skills, and strategies for future applications.[24]

Of particular interest to educators is the self-regulatory component of metacognition, which in educational contexts translates into the monitoring of one's learning or the "executive control of behaviour" involved in planning, regulation, and evaluation.[25] Research indicates that the most effective learners are self-regulating: they monitor their learning to determine accurately what they know and do not know, they know how to eliminate confusion or seek additional information when needed, and they understand themselves as learners and are aware of strategies that are optimal for achieving comprehension.[26] Thus, promoting

[22] Naomi Silver, "Reflective Pedagogies and the Metacognitive Turn in College Teaching," in *Using Reflection and Metacognition to Improve Student Learning*, 1; Anne Jordan, Orison Carlile, and Annetta Stack, *Approaches to Learning: A Guide for Teachers* (Berkshire and New York: McGraw Hill Open University Press, 2008), 200; and Moon, *Reflection in Learning & Professional Development*, 161.

[23] Tarricone, *The Taxonomy of Metacognition*, 11.

[24] See Tarricone, *The Taxonomy of Metacognition*, 41; and Fogarty, *How to Teach for Metacognitive Reflection*, x.

[25] Marzano et al., *Dimensions of Thinking*, 14–15.

[26] See Douglas J. Hacker, "Definitions and Empirical Foundations," in *Metacognition in Educational Theory and Practice*, eds. Douglas J. Hacker, John Dunlosky, and Arthur C. Graesser (Mahwah, NJ: Lawrence Erlbaum Associates, 1998), 12–13; and Victoria J. Risko, Kathleen Roskos, and Carol

metacognition develops learning-to-learn skills.[27] Further, research indicates that possessing metacognitive ability is the key to learning content effectively; studies have shown that students who are slow to learn or who are challenged by comprehending content lack metacognitive skills, not memory capacity.[28] Moreover, self-regulatory monitoring of learning facilitates the transfer and application of knowledge to new contexts, which is a desirable outcome in all fields and necessary for theoretical work.[29]

Researchers have also connected self-regulation with intrinsic motivation to learn, a topic of enduring concern to instructors of music theory and an important factor in academic success. Students who are intrinsically motivated to learn engage in self-regulating learning strategies and experience increased levels of *self-efficacy* (the personal belief in one's ability to succeed at a task). Psychologist Albert Bandura and others have noted that self-efficacy is a highly effective predictor of motivation to learn and plays an essential role in motivation to achieve.[30] Therefore, since self-regulation is a component in common with both metacognition and motivation, fostering metacognitive engagement can stimulate

Vukelich, "Reflection and the Self-Analytic Turn of Mind: Toward a More Robust Instruction in Teacher Education," in *Metacognition in Literacy Learning: Theory, Assessment, Instruction, and Professional Development,* eds. Susan E. Israel, Cathy Collins Block, Kathryn L. Bauserman, and Kathryn Kinnucan-Welsch (Mahwah, NJ: Lawrence Erlbaum Associates, 2005), 317.

[27] Benton, *Thinking about Thinking,* 3–4.

[28] See, for example, Ann Brown, "Knowing When, Where, and How to Remember: A Problem of Metacognition," in *Advances in Instructional Psychology,* ed. Robert Glaser, vol. 1 (Hillsdale, NJ: Lawrence Erlbaum Associates, 1978), 77–165; Annemarie Sullivan Palinscar and Ann L. Brown, "Reciprocal Teaching of Comprehension-Fostering and Comprehension-Monitoring Activities," *Cognition and Instruction* 1, no. 2 (1984): 117–75.

[29] Bernadette Berardi-Coletta et al., "Metacognition and Problem Solving: A Process-Oriented Approach," *Journal of Experimental Psychology: Learning, Memory, and Cognition* 21, no. 1 (1995): 210.

[30] See, for example, Albert Bandura, "Self-efficacy: Toward a Unifying Theory of Behavioral Change," *Psychological Review* 84, no. 2 (1977): 191–215; Dale H. Schunk, "Self-Efficacy and Academic Motivation," *Educational Psychologist* 26, nos. 3–4 (1991): 207–231; Barry J. Zimmerman, "Self-Efficacy: An Essential Motive to Learn," *Contemporary Educational Psychology* 25 (2000): 82–91.

motivation. Indeed, Charles Harrison has argued that "to indulge in one is to indulge in the other."[31]

In music education research, metacognition has been recognized as crucial for progressive development of musicianship and as the key to musical independence. Benton explains that "as music students increasingly use metacognition, they take greater responsibility for their own learning, develop their own strategies for working through musical problems, and learn how to learn more efficiently."[32] She notes that self-regulation increases with expertise, observing that "being self-aware of strengths and weaknesses, recognizing problems, and knowing how to apply strategies to solve problems and correct errors are abilities that are noticeably greater among expert musicians than novices."[33] This echoes the work of Susan Hallam, who, in a study that compared habits of expert and novice musicians, found that metacognition was a distinguishing feature of professionalism: professional musicians routinely accessed metacognitive skills to a greater degree than novices, which enabled professionals to learn how to learn repertoire efficiently.[34] Lest one think that metacognitive ability presupposes a certain level of expertise, research indicates that novice musicians may be engaged in metacognitive processing profitably, especially if it is practiced regularly within a learning environment.[35] Although these observations pertain to instrumental performers, there is no reason to suggest that they would not apply similarly to professional and novice music theorists.

Metacognition may be fostered by different strategies aimed specifically at planning, monitoring, or evaluating learning, and may be practiced through activities such as partnered think-aloud sessions and self-assessment exercises.[36] However, the literature on

[31] Charles J. Harrison, "Metacognition and Motivation," *Reading Improvement* 28, no. 1 (1991): 35.

[32] Benton, "Promoting Metacognition in Music Classes," 59.

[33] Benton, *Thinking about Thinking,* 35.

[34] Susan Hallam, "The Development of Metacognition in Musicians: Implications for Education," *British Journal of Music Education* 18, no. 1 (2001): 27–39.

[35] Bathgate, Sims-Knight, and Schunn, "Thoughts on Thinking: Engaging Novice Music Students in Metacognition," 408.

[36] Benton, "Promoting Metacognition in Music Classes," 53.

reflection suggests that reflective writing is a particularly effective strategy through which to hone metacognitive skills, especially in higher education.[37] Peggy Ertmer and Timothy Newby argue that reflection on the process of learning is essential to developing "expert learners," defined as "those successful individuals who approach academic tasks with confidence, diligence, and resourcefulness."[38] Moreover, Benton argues that reflecting deeply on one's work requires metacognition and can become active learning when students "make connections among past learning experiences, current learning experiences, and possibilities for future learning."[39]

In effect, reflective writing engages students in the process of making and documenting meaning that is relevant to them from course content and aligns with the current constructivist approach to instruction, which views learning as something that is not passively accepted but rather actively constructed by learners when they assimilate new facts and experiences into the context of previous learning.[40] Such activity involves analysis, synthesis, and evaluation of data, which are higher-order cognitive skills according to Bloom's taxonomy of educational objectives.[41] Harnessing these cognitive skills discourages surface learning—a style of learning often encountered in music theory instruction in which students take in information temporarily but do not retain it. Instead, reflection invites all students to engage in a deep approach to learning whether they are surface learners memorizing just enough to pass a test, strategic learners earning good grades but not invested in their learning, or deep learners in pursuit of meaningful learning experiences.[42] Moon suggests that reflection also facilitates

[37] Jordan, Carlile, and Stack, *Approaches to Learning: A Guide for Teachers,* 208.

[38] Peggy A. Ertmer and Timothy J. Newby, "The Expert Learner: Strategic, Self-Regulated, and Reflective," *Instructional Science* 24 (1996): 1.

[39] Benton, *Thinking about Thinking,* 55.

[40] See Leslie P. Steffe and Jerry Edward Gale, eds., *Constructivism in Education* (Hillsdale, NJ: Lawrence Erlbaum Associates, 1995).

[41] Benjamin S. Bloom, ed. *Taxonomy of Educational Objectives: The Classification of Educational Goals. Handbook 1: Cognitive Domain* (New York: D. McKay, 1956), 18.

[42] Ken Bain, *What the Best College Students Do* (Cambridge, MA: Harvard University Press, 2012), 35–36.

the *upgrading* of learning, in which ideas encountered previously at the surface may be reprocessed more deeply through reflection and integrated with new learning.[43] Thus, purposeful reflective writing has the potential to be a very useful tool for music theory instruction, because learners are required to continuously integrate new disciplinary information into previous knowledge that may not have been adequately retained if it did not initially undergo deep processing. Additionally, when learning has been unsuccessful, reflection may help to determine the cause of the problem and explore possible remedies to use in the future.[44]

In the 2001 revised version of Bloom's taxonomy, metacognition now appears as one of four types of knowledge in the knowledge dimension.[45] As such, it takes its place as an important component of learning in the twenty-first century and is supported by empirical research indicating that incorporating the development of metacognitive skills as part of a course leads to better learning outcomes. In all domains, instructors are called upon not only to deliver content consisting of disciplinary knowledge and skills, but also to equip students with metacognitive strategies to use the knowledge meaningfully in order to attain their goals.[46] Issuing a rallying cry from the domain of music, Leonore Pogonowski writes, "We have to infuse metacognitive strategies into our teaching methods if, as a significant outcome of music education, we wish to develop independent musical thinkers."[47] Given the abundance of research in support of developing metacognition within educational contexts particularly through reflection, it behooves music theory

[43] Jenny Moon, "Reflection in Higher Education Learning" (PDP Working Paper 4, Learning and Teaching Support Network Generic Centre, January 2001): 6, https://www.researchgate.net/publication/255648945_PDP_Working_Paper_4_Reflection_in_Higher_Education_Learning.

[44] Phil Race, "Evidencing Reflection: Putting the 'W' into Reflection: Why Reflect?," The Higher Education Academy ESCalate Education Subject Centre: Resources, last modified November 15, 2006, http://escalate.ac.uk/resources/reflection/02.html.

[45] Lorin W. Anderson et al., eds., *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*, abridged ed. (New York: Longman, 2001), 29.

[46] Marzano et al., *Dimensions of Thinking*, 5.

[47] Pogonowski, "Metacognition: A Dimension of Musical Thinking," 19.

educators to consider incorporating similar metacognitive strategies that empower students to learn disciplinary content meaningfully.

Metacognitive Reflection Assignments

A variety of vehicles, such as reflective journals, learning log books, and reflective notes, have been used to foster reflective learning. While they may serve discipline-specific purposes, the informality that typically characterizes them does not always require metacognition. Literature on reflective writing indicates that the kind of deep thinking associated with metacognition is difficult to attain. For many students, reflecting on learning and providing evidence of such reflection is a challenging task.[48] Some will not understand what is required of them and may feel uncomfortable working with information that is not from a text or provided by a lecturer. Consequently, Moon warns: "Just asking students to write a learning journal, for example, may bring benefits, but they will be haphazard. A purpose and an idea of the kind of outcome of reflection is required—particularly if the reflective activity is to be assessed."[49]

When beginning to reflect, it is common for students to focus on describing the subject matter of their learning. For example, a student may write: "I learned that the seventh of ii^7 is a dissonance. I also learned that it must resolve down by step." Reflective writing becomes more meaningful when the instructor provides writing prompts or questions that direct a learner's thinking toward metacognitive awareness. Questions that require only a single-word answer (*yes* or *no*) do not make effective reflection prompts. Rather, questions that ask *how* and *why* in addition to *what* can help to deepen reflection beyond merely a description of course content. Providing some structure to a reflective writing assignment should be done to clarify its purpose, its manner of presentation, and its expected outcome. This is particularly important to do if assessment is involved.

Examples 1 and 2 provide two sample reflective writing assignments that were incorporated into a course on chromatic harmony at the sophomore level, the results of which will be

[48] See for example, D. Holm and S. Stephenson, "Reflection—A Student's Perspective," in *Reflective Practice in Nursing*, eds. Anthony M. Palmer, Sarah Burns, and Chris Bulman (Oxford: Blackwell Science, 1994), 53–62.

[49] Moon, "Reflection in Higher Education Learning," 8.

discussed later. Example 1 addresses the learning experience of a particular topic in the course, modal mixture, while Example 2 concerns the full course experience. Both assignments instruct students to compose reflective statements in essay form. While this may seem at odds with writing that is exploratory in nature and that typically lacks academic formality, the essay requirement ensures that students present their thoughts coherently enough for assessment. Both assignments include questions that are not mandatory to answer, but rather provide guidance about the kind of information that would be appropriate to include. The questions are metacognitive prompts that may be used either at the end of any unit of study in a music theory course (as in Example 1) or at the end of a course (as in Example 2). It is important to note that the questions direct students to write not about the subject matter per se, but rather about their learning experience of the subject matter, their integration of new information into previous knowledge, and the self-regulation of their learning. The questions ask *what*, *why*, and *how* in order to encourage metacognitive responses. Such prompts may address learning experiences generally, as most of these questions do, or may be directed more specifically at a particular activity, assignment, or exercise, such as the enriching activity referred to in Example 1, which was an optional assignment inviting students to identify instances of modal mixture in their individual performance repertoires.

Instructions:

Reflect on what you have learned while studying the topic of modal mixture. Compose your thoughts about your learning experience in a document that is no more than 2 pages long. Write in the style of an essay (in paragraphs, not in point form), with double-spaced text in 12-point font. You may use the following questions to guide your reflection, but you need not limit your observations to them:

- What exercises on this topic were most beneficial for my learning? Why?
- Did this topic reinforce or develop my knowledge in some way? If so, how?
- Did it answer questions I was wondering about or pose new questions? What are they?
- Did this topic show me gaps in my previous learning that I should address? What are they?
- What did I learn from the enriching activity?

Example 1. Reflection on the learning experience of modal mixture

Instructions:

Reflect on what you have learned in this course. Take some time to think about your knowledge and abilities in the subject of music theory when you began the course and your knowledge and abilities now. Compose your thoughts about your learning experience in a document that is no more than 2 pages long. Write in the style of an essay (in paragraphs, not in point form), with double-spaced text in 12-point font. You may use the following questions to guide your reflection, but you need not limit your observations to them:

- Did I develop my understanding of music in this course? How?
- What topics or activities in the course were most beneficial for my learning? Why?
- As a result of my work in the course, have I improved my skills in analysis, harmonization and/or ability to communicate about music? Is this important to me? Why or why not?
- In what way was this course relevant to me? Why do I think so?
- Did the course answer questions I was wondering about or did it initiate new questions that I can now pursue? What are they?
- Did I find the topics in this course more challenging or easier to grasp than material in previous theory courses? Why?
- Did the course show me gaps in my previous learning that I still need to address? What are they?

Example 2. Reflection on learning experienced in the entire course

Assessment of reflective writing is a controversial issue. Some proponents of reflection support its assessment, while others argue that reflection cannot or should not be assessed at all in light of the individual and personal nature of the activity. The latter position is particularly valid in apprenticeships or professional training situations where learner motivation to succeed is routinely high and the outcome of reflection is evident in the work performed (which is itself assessed). However, it is well known that in undergraduate classrooms, learning tends to be driven by assessment.[50] Value is conferred upon assignments that are assessed, and conversely, work that is not assessed appears less valuable. Therefore, if students are to understand that reflective work is valuable and should be taken seriously, it must be rewarded with assessment. Moreover, subjecting reflective writing to assessment may serve as an extrinsic motivator to foster potential intrinsic motivation, which may be developed through metacognitive reflective practice.

This in turn raises the question, how should reflective writing be assessed? Moon acknowledges that there is no single correct

[50] Moon, *Reflection in Learning & Professional Development*, 130.

way to accomplish this, but advises that criteria for assessment should be based on the purpose of the reflection and that such information should be communicated to students before reflection is assigned.[51] This may be done effectively through a rubric for assessment. Example 3 provides a rubric that could adequately assess the reflective writing assignments shown in Examples 1 and 2. It describes the criteria that must be met to achieve from zero to a maximum of four points on a completed assignment and clarifies that the purpose of the reflection is to express clearly the integration of new learning into previous theoretical knowledge and/or professional development. Adoption of such a rubric for assessment has the additional benefits of streamlining the grading process and ensuring that a certain degree of consistency is maintained if more than one person evaluates assignments. Evaluation is thereby completed quickly and may be pedagogically energizing when students provide perceptive insights through their reflections.

Points	Criteria
0	Reflection is not submitted.
1	Reflection shows very little engagement with thinking about learning experiences, or does not comply with writing requirements, or is hindered by many writing problems.
2	Reflection displays a passible attempt at thinking deeply about learning experiences and at integrating new information into previous theoretical knowledge and/or professional development. The work appears to be half done.
3	Reflection displays a good effort to think deeply about learning experiences and to integrate new information into previous theoretical knowledge and/or professional development.
4	Reflection displays an excellent effort to think deeply about learning experiences and to integrate new information into previous theoretical knowledge and/or professional development. It is well written and contains very perceptive comments.

Example 3. Rubric for assessment

What kind of results could the reflective assignments in Examples 1 and 2 elicit from a sophomore class of music majors? The remainder of this essay describes the context and method of a study that addresses this question, discusses the results of a

[51] Moon, "Reflection in Higher Education Learning," 14–15; and Jenny Moon, "The Higher Education Academy Guide for Busy Academics No. 4: Learning Through Reflection" (November 2005), 3, https://nursing-midwifery.tcd.ie/assets/director-staff-edu-dev/pdf/Guide-for-Busy-Academics-No1-4-HEA.pdf.

content analysis of the completed reflection assignments, and then evaluates the pedagogical value of this metacognitive strategy.

A Study of Student Reflections

Context and Method

A total of five metacognitive reflective writing assignments were implemented into a single-term music theory core course on chromatic harmony at the sophomore level, which was open only to music majors. The course was lecture-based and built upon concepts introduced in two prerequisite music theory courses at the first-year level. The first four reflective assignments were completed at the end of selected constituent units of study within the course (modulation, binary form, modal mixture, and Neapolitan and augmented sixth chords), and each was focused on the learning experience of those units. The last assignment was completed at the end of the course and was a reflection on learning experienced in the course overall.

The assignments were assessed according to a rubric similar to the one in Example 3; the rubric was included with the assignment in order to clarify the purpose of the reflective activity and to make its evaluation criteria as transparent as possible. Each assignment was assessed and returned to students with feedback before the next one in the sequence was begun in order to assist students in developing their reflective practice. Performance on reflective assignments constituted ten percent of the final course grade, and one assignment that earned the lowest score was dropped so that only four of the five reflections counted toward the final grade. This provision took into account the possibility that students might not reach their optimal reflective potential at all times, and it also offered students the option not to submit one assignment of their choosing without penalty.

When the course was completed, students were invited to allow their written reflections to undergo a content analysis in order to investigate the pedagogical value of this metacognitive strategy for music theory instruction.[52] For each assignment, statements were selected from student reflections and grouped into categories identified by recurring themes. Some categories developed in response to the writing prompts that were provided

[52] This study was approved by the Research Ethics Board of Wilfrid Laurier University.

in the reflection instructions, while others arose from the process of engaging in reflection. To maintain a reasonable scope, this article limits its discussion to results derived from one topic reflection assignment—the learning experience of modal mixture reproduced in Example 1—and from the final course reflection assignment reproduced in Example 2. The modal mixture assignment was the third of the four topic reflection assignments, and as such it is the earliest one in the sequence that ensures that students had received feedback on at least one previously-completed reflection assignment. The writing on this assignment may therefore be considered a fair representation of the collective reflective abilities possessed by students at this stage.

Participants

From a total pool of seventy-four college-aged students in the course, of which thirty-nine (53%) were female and thirty-five (47%) were male, twenty-six agreed to participate in the study, yielding a sample size of 35%. The sample was equally divided between male and female participants: thirteen male and thirteen female. Final grades for participants in the study ranged from 55% to 96% and averaged 78%. Final grades for all students in the course ranged from 41% to 96% and averaged 73%. The sample is therefore reasonably representative of class enrolment.[53]

[53] The sample size for this study is affected by ethics board policy. To gain approval, student consent could only be obtained after the course was completed and final grades were submitted to ensure voluntary participation free from any perceivable undue influence. Under these terms, the sample size may be regarded as substantial rather than small. Results of the study may reflect self-selection bias. However, mitigating this concern is the fact that the data is not conditioned by knowledge of a subsequent study to which it may be subject, and that the sample corresponds very closely with gender balance and student achievement in the course overall. While the sample does not include any participants with failing grades in the course, the 41% grade in the final grade range for the course is an outlier—it is the score of the only student who did not pass the course. The absence of this student from the sample does not affect results of this study because the student did not submit the reflection assignments under review. Removal of this outlying grade from final grade calculations results in a range of 53% to 96% for all students in the course, which corresponds almost exactly with the final grade range for sample participants.

Results and Discussion

A content analysis of student reflections identified six different thematic categories:

1. Statements reviewing the subject matter
2. Statements expressing development of theoretical knowledge and skill
3. Statements identifying beneficial exercises and learning strategies
4. Statements addressing learning challenges
5. Statements expressing motivation
6. Statements recognizing relevance and the transfer of learning

Statements excerpted from the reflections on the learning experience of modal mixture (the "topic assignment") encompass all six categories. Those excerpted from the reflections on learning experienced in the course (the "course assignment") encompass categories 2 through 6; category 1 is not represented. The appendix provides tables that organize all of the excerpts from participant reflection statements into each of these categories, numbered correspondingly. With the exception of category 1, which consists of one table containing data only from the topic assignment, all other thematic categories feature two tables representing the data from each of the reflective assignments.

Table 1 consists of statements reviewing the subject matter of modal mixture, which are found in 23% (6 out of 26) of participant reflections on the topic assignment. At the end of the course, students no longer review subject matter in their reflective statements, and consequently, no data exists to populate this category from the course assignment. As discussed earlier, reviewing subject matter is to be expected from learners new to the practice of reflection. Though these comments may not be perceptively significant, they can alert instructors to misconceptions, misinterpretations, or problems in the making, which may then be addressed and corrected in timely fashion. For example, statements 5 and 6 in Table 1 provide teachable moments. The student's belief in the final sentence of statement 5 that "applied chords must resolve, while secondary mixture does not," warrants clarification of the concept of resolution, and the suggestion in statement 6 that modulation

involving mixture is limited to ♭VI or ♭III is an opportunity for correction. Thus, while reflection assignments are typically helpful low-stakes learning activities for students, they may benefit the instructor by providing timely feedback for corrective teaching prior to more high-stakes assessment.

Statements constituting thematic categories 2, 3, and 4 are responses to the writing prompts provided in the reflection assignment instructions and represent different aspects of the regulation of learning. In particular, they illustrate how reflective writing may develop a learner's awareness of their own agency and responsibility for learning. The responses in Table 2a document that, in the topic assignment, 54% of participants (14 of 26) recognize ways in which their theoretical knowledge and skills are being developed or revised. They monitor their learning by expressing their comprehension, recognizing the integration of their new knowledge with previous theoretical knowledge, and perceiving improvement in their analysis and harmonization skills. For example, one student (see Table 2a, statement 4) expresses the revision of their previous knowledge by describing the integration of new theoretical information into their listening experience and recognizing the effect that their new knowledge has on their experience:

> I used to think that modal mixture was just modulations, and so I did not know there was another term for the concept. …The idea that there was "modal mixture," "melodic mixture," and "harmonic mixture" was frankly very eye opening (or ear-opening). I learned how to better apply modal mixture and it makes listening to music more interesting; instead of going like, "Oh, something weird happens there, it is kind of cool, some kind of weird modulation, but I have NO idea what it is", I can go like, "Oh, listen, there's a ♭VI following that tonic chord! There's some modal mixture going on!"

Additional evidence of revision is found in statements 8 and 13. It is noteworthy that the latter credits reflection with developing an awareness of disciplinary knowledge when the student writes, "From this reflection activity on modal mixture in particular, I've learned that most of what we are learning in theory I already have some knowledge of, from having a good ear and understanding of music."

Presenting excerpts from the course assignment, Table 2b in the

appendix shows that a similar number of participants (50%, or 13 out of 26) comment on developing theoretical knowledge and skill over the duration of the course. They perceive improvements in analysis, harmonization, and dictation, and they report that they have upgraded their previous learning. Among these statements are recurring expressions of self-efficacy that refer to confidence in their acquired theoretical skills (see statements 1, 2, 4, 5, 9, 10, and 12). In statement 5, confidence is connected to evidence of upgrading previous learning when the student writes:

> The beginning of this course was quite difficult for me because I first had to go back and learn concepts from last year before I could continue learning new ones. Once I was secure and my learning gaps had been acknowledged I found that I was doing better in testing situations and that I needed less assistance from my tutor. Lectures and homework are easier to grasp and I find in general I am doing better and feeling more confident in comparison to my first year theory courses. I came into University feeling behind in theory and now I feel like I have finally caught up and am becoming a more competent student.

Particularly noteworthy is that the reflective acknowledgement of progress and improvement may lead to the recognition of the relevance of learning the subject matter, as demonstrated in several excerpts. One student (statement 9) writes, "I find these skills to be very important and valuable as they help to show me that I am a strong musician." Another (statement 10) notes that the identification of harmonies in the repertoire "makes music something altogether more familiar to me. Music becomes less of a distant and incomprehensible entity with each new lecture and chapter topic." Another student (statement 13) focuses on the future benefit of their learning, writing, "Being able to [analyze music] is important to me because it can help in the long run with understanding new concepts in other theory courses and when learning new pieces."

An equal number of excerpts from both the topic and the course assignment contribute to the third thematic category, consisting of statements that identify beneficial exercises and learning strategies. In each case, 50% of participants (13 out of 26, though not all the same students for each assignment) identify beneficial exercises and describe engagement with strategies that support their individual

learning needs. Presenting excerpts from reflections on the topic assignment, Table 3a in the appendix shows that participants explain the merits of repertoire analysis, melody harmonization, and figured bass realization from different perspectives. Students also begin to realize the benefits of aural engagement with printed music examples (statements 4 and 10) and begin to recognize a need to upgrade their previous learning to a deeper level (statement 9). A detailed expression of learning about learning, or meta-learning, appears in statement 11. Here, the participant differentiates assigned activities in terms of their perceived formative versus summative value, and explains compellingly why certain types of exercises facilitate one purpose or the other:

> I found all of our homework activities to be equally helpful in my learning in different ways and across different stages. Analysis was helpful for me as a "first step" as it allowed me to clarify any questions or confusion I was having about the rules and concepts surrounding modal mixture. Having to look for and hear examples of modal mixture myself within a relevant musical context (as opposed to just looking at [the textbook's] pre-analyzed examples) really helped me to gain a greater understanding of the contexts in which modal mixture can occur. As a "second step", I found voice-leading, figured bass, and melody harmonization exercises helpful in *testing* my knowledge and understanding of concepts and harmonic/melodic paradigms surrounding modal mixture. In analysis it is possible (although not ideal) to ignore paradigms and just look at each chord individually, and so sometimes I find that I am not necessarily paying as close attention to paradigms as I would be when I have to write them myself. By actually having to write progressions, I was really able to take a more self-reflective stance and make sure that I had a really thorough understanding of paradigms.

A similar statement appears in Table 3b (statement 10), but curiously the types of exercises contributing to formative and summative purposes are reversed. This may be because score analysis becomes much more comprehensive and complex toward the end of the course.

Strategies for learning receive more consideration at the end of the course as documented in Table 3b in the appendix. Statements 3, 5, 9, and 11 express a stronger preference among participants for engaging with course concepts aurally, either through dictation practice or by incorporating listening into analysis. Performing theory exercises and/or relating course content to performance repertoire emerge as other helpful learning strategies in statements 2, 4, and 8. Participants also recognize the payoff of approaching coursework with diligence and discipline, thereby documenting self-efficacy and recognizing the benefits of taking responsibility for their learning (statements 1 and 10). Last, but not least, is evidence acknowledging that reflection assignments facilitate the retention of information and foster a deeper understanding of subject matter (statements 2, 7, and 13). In this regard, statement 13 is particularly noteworthy as it credits reflection with learning how to integrate new information into previous knowledge and describes the rewarding experience of accomplishment to which it leads:

> My knowledge could grow and grow because finally I learned how to make connections. Throughout the term the reflections aided in reinforcing these connections. By articulating what I learned in words, rounding up the flurry of new information was a daunting task no longer. Finally being able to understand theory and to follow the new concepts is a wonderful, comforting feeling that enhances my life as a musician, and makes me feel worthy of identifying as one. …I have made a lot of progress this term and I feel more confident in what I have come to learn than ever before. By also learning how to look back and reflect while taking in new information, I could process everything much better. I am no longer afraid of theory as a result.

In thematic category 4, which consists of statements that address learning challenges, 50% (13 out of 26) of topic assignment reflections, but only 35% (9 out of 26) of course assignment reflections include statements that address learning challenges and strategies to overcome them. Excerpts from the topic assignment in Table 4a in the appendix explain what learners believe they know or do not sufficiently understand and usually identify the need to engage more purposefully with coursework in various ways to overcome

challenges. In these comments, students also express the emotions experienced when encountering difficulties (see statements 2, 3, 9, and 10). Statement 2 illustrates how connecting new information with previous learning may change an initial negative reaction into a positive experience:

> Initially, modal mixture felt like a real challenge. It seems to me that it was the first step to expanding the foundational knowledge gained this semester regarding chromatic harmonies. At first I was confused and frustrated. I had successfully comprehended applied chords and diatonic modulations and suddenly chromaticism had to come along and shake things up. I was nervous about the difficulty that comes with having too many options for deciding what an accidental can indicate. I was content with an understanding that an accidental indicates a non-chord tone, an applied chord or a diatonic modulation. I was scared to throw modal mixture and chromatic modulations into the mix. However, with a little practice and some reassurance that I was completing my homework correctly I realized that the foundational knowledge from concepts previously learned this semester could be applied to navigate through modal mixture with ease.

As is evident from Table 4b in the appendix, significantly fewer participants mention learning challenges in the course assignment reflections, and when they do, the challenges are downplayed in favor of recognizing progress and expressing the ability to overcome difficulties (see statements 2, 4, 5, 6, and 9). A few participants still acknowledge that the source of their difficulties lies in upgrading previous learning, which has not yet been accomplished (see statements 1, 3, and 8). The existence of these comments at this late stage in the course confirms that learner awareness of what needs to be done does not necessarily lead to doing it. Evidently, additional incentive is needed for some students to revisit content from a previous course in order to upgrade learning.

As noted earlier, research links self-regulation with motivation. This is reflected clearly in Table 5 in the appendix: the regulatory activity required to produce the statements that populate thematic categories 2 through 4 elicits unsolicited descriptions of motivation

that are documented in thematic category 5. Nineteen percent (5 out of 26) of topic assignment reflections in Table 5a and a nearly double 35% (9 out of 26) of course assignment reflections in Table 5b describe motivation. Accompanying this encouraging development are comments in both tables that express emotions of satisfaction, enjoyment, excitement, and even inspiration as participants acknowledge their desire at first to expand their theoretical knowledge and "keep on top of homework," and later to continue to improve their skills and apply their new learning to a subsequent theory course or the next step in their development as musicians. A particularly striking and welcome revelation is recounted in statement 4 of Table 5a where a student associates theory studies with joy when writing, "Modal mixture was yet another way of expanding my musical world ... and it has really allowed me to find more joy in my theory studies."

Even more remarkable and consistent with research on metacognitive reflection is the number and quality of statements in thematic category 6 that recognize the relevance of learning course content and document its transfer to contexts beyond the course. As shown in Tables 6a and 6b in the appendix, 46% of participants (12 out of 26) report doing so in the topic assignment reflections, and 65% of participants (17 out of 26) include such commentary in the course assignment reflections. In both Tables, an overwhelming number of statements connect the knowledge acquired in the theory course with the learning of performance repertoire (see Table 6a, statements 1, 3, 5, 7, 8, 9, 11, and 12, as well as Table 6b, statements 2, 4, 5, 7, 9, 10, 11, 12, 13, and 17). Participants also acknowledge the application of their knowledge to composition (Table 6a, statements 2 and 6, and Table 6b, statements 8 and 11), and the relevance of their learning to professional development and career aspirations (Table 6a, statements 2, 3, and 11, and Table 6b, statements 1, 3, 4, 11, 12, 14, and 15). Statement 11 in Table 6b encapsulates all three of these subthemes:

> I found that the content in this theory class could be easily applied to my repertoire. For example, I am working on a Mozart sonata and although I have not studied sonata form in detail yet, I can understand the tonal map of the piece by understanding how it modulates. Modulation is also important in song writing and since I hope to go into music therapy, I can apply my knowledge to modulate

> a song according to the needs of the client. I enjoyed studying modal mixture. Modal mixture is another application I know I will use in the future because it allows for word painting, another effective technique in song writing.

A highlight of Table 6a is statement 10, where a student credits reflection with facilitating the transfer of knowledge and, in this case, perceptively connects information acquired in a non-music course (sociology) with the development of musicianship while studying music theory. The statement shows that, through metacognitive reflection, students may begin to engage in theorizing even at an introductory disciplinary level:

> While reflecting on the chapters on modal mixture, a concept came to mind that was introduced in a sociology course I am currently enrolled in. The concept stated that our language shapes our consciousness. Another way of putting it is that what we are able to perceive is shaped by the richness of our vocabulary. This concept felt very relevant as the chapters on modal mixture introduced a new layer to the musical language and vocabulary that is gradually being developed. I now find that when I look at and hear music it is easier [to] perceive more and more details of what is there.

Conclusions

This study corroborates research findings in other fields, as outlined at the outset of this article, that metacognitive processing encourages development of self-efficacy, fosters motivation to learn, and facilitates deep learning experiences. Moreover, it demonstrates that such processing may be achieved productively in music theory study at an introductory undergraduate level by implementing a reflective practice that invites students to think deeply about their learning experience of the subject matter. All of the reflective statements about the experience of learning documented in this study provide evidence of students constructing the meaning of course content and experiencing that meaning in ways that are individually important. Metacognitive reflection emerges as an effective vehicle through which students may draw on their own

learning authority to deepen learning experiences. In doing so, they recognize the relevance of music theoretical learning to their individual professional development, which is an ideal outcome of undergraduate music theory instruction that is difficult to achieve without purposeful reflective practice.

One must keep in mind, however, that the findings of this study are contextualized by a sample of twenty-six participants in one sophomore course at a particular post-secondary institution. Further research is needed that would involve a greater number of participants at the same and different levels of study across multiple institutions to replicate, revise, or reconsider results. Nevertheless, given that these findings are supported by a substantial body of research on metacognition in educational settings, the study invites reflection on the objectives of music theory instruction.

Teaching objectives in music theory pedagogy are normally viewed in terms of disciplinary content, and logically, initiatives to update, revise, or reform instruction typically address content. However, focusing solely on the revision of content does not address the learning process. And learning is not simply about accumulating content, as Dewey cautioned over eighty years ago. More recently, adult education expert Jack Mezirow has defined learning compellingly as "the process of making a new or revised interpretation of the meaning of an experience, which guides subsequent understanding, appreciation, and action."[54] Learning is, therefore, more accurately about the process by which new information encountered by learners is integrated with existing knowledge to create new meaning and understanding. To be effective, pedagogical initiatives in our field should address this process, which may be accessed through metacognitive reflection.

This is not to suggest that issues concerning content and its delivery are not important. Indeed, reflection first requires information, knowledge, or experiential data of some kind for interpretation or reinterpretation. One cannot reflect meaningfully without first genuinely acquiring the knowledge or doing the work upon which reflection is based. However, in today's rapidly changing educational environment and musical world, it is important to consider not only the disciplinary knowledge that should be taught, but also the skills

[54] Jack Mezirow, "How Critical Reflection Triggers Transformative Learning," in *Fostering Critical Reflection in Adulthood: A Guide to Transformative and Emancipatory Learning*, ed. Jack Mezirow and Associates (San Fransisco, CA: Jossey-Bass, 1990), 1.

that students must acquire to learn content meaningfully and to adapt it to new contexts within and beyond the discipline. Metacognitive reflection is needed to engage learners with their individual processes of learning, to deter them from completing tasks without evaluating what they are doing, and to facilitate the integration of new information with previous knowledge. This last point in particular suggests that the incorporation of metacognitive reflective practice into music theory pedagogy would align constructively with the proposed pillar of integration recommended by the College Music Society Task Force on the Undergraduate Music Major in its recent call for curricular reform. In effect, the rationale of the Task Force for recognizing integration as a pillar of reform may be understood as an adaptation of the purpose of metacognitive practice to undergraduate music instruction, especially when they write that "the content of the undergraduate music curriculum must be integrated at deep levels and in ways that enhance understanding, interpretive performance, and creativity as a holistic foundation of growth and maturation."[55]

As demonstrated by the study of student reflections presented above, incorporation of metacognitive reflective practice into music theory instruction at the undergraduate level facilitates meaningful learning of course content in ways that the accumulation of additional practice, reinforcement of content, or even change of content may not. Metacognitive thinking brings to conscious light the cognitive and learning processes that are often assumed but not acknowledged within the context of teaching and learning music theory. Validating these processes helps to promote motivation, deepen learning of subject matter, and provide opportunities for its transfer beyond the environment in which it was learned. Results show that engaging students in metacognitive reflection on their learning experiences of disciplinary subject matter leads to an appreciation of the study of music theory, and this should encourage our field to include the development of metacognitive ability alongside other skills that are traditionally considered to be part of the purview of music theory pedagogy.

[55] Task Force on the Undergraduate Music Major, "Transforming Music Study from its Foundations: A Manifesto for Progressive Change in the Undergraduate Preparation of Music Majors," *College Music Symposium* 56 (2016): iv, doi: http://dx.doi.org/10.18177/sym.2016.56.fr.11118.

Appendix

Thematic Categorization of Excerpts from Student Reflections

Table 1 **Statements that review subject matter:** **Excerpts from student reflections on their learning experience of modal mixture**
1. Throughout the unit of modal mixture I learned that there are two types of modal mixture, harmonic mixture and melodic mixture. I also learned that the main chords that are altered are VI, which becomes ♭VI and the III chord, which becomes ♭III. These two chords are also used the most within modal mixture. Another rule I learned is once the modal mixture is started, it must continue until it can resolve to the dominant.
2. Something I learned that I thought was very interesting was the use of plagal motions made to sound cadential. For example, if the progression is IV-iv-I, and a line moves "la", "le", "sol", it has a very pleasant sound to the ear because of the draw and need for resolution from la to sol. The semitone between le and sol make it far more dramatic.
3. The principle of modal mixture is one of the tools for modulation into non-closely related tonalities which differ by more than one sharp or flat in terms of key signature. This also helps to create more unique tonal progressions. The melodic mixture component, where non-root tone is borrowed from minor tonality into major progression or vice versa, provides some special characteristics to the melody, not found in solid major melody progression. The harmonic mixture component [occurs] when the root of a chord is altered, for example from vi to ♭VI, or from ii [sic] to ♭III and vii° to ♭VII in major keys. Modal mixture allows to create harmonic progression to non-closely related keys. Because steps such as ♭VI, ♭III or ♭VII can themselves be dominants of some keys' [sic] tonic.
4. Modal mixture involves the borrowing of a note or chord from the parallel mode (major or minor) of a composition's home key, and the insertion of this chord into a progression that is written in the home key. In terms of function, the borrowed harmony is treated in the same way as a regular diatonic chord built on the same root. For instance, a composition in C major may borrow a minor chord built on F from the parallel mode of C major (that is, c minor). In this scenario, the borrowed F minor chord would be treated in the same way as the regular major chord built on F, and would lead to a dominant function chord in the key of C major. Modal mixture has proved to be such a popular compositional technique largely because it has the potential to greatly expand a composer's repertoire of different colourations and harmonic intensities. Using modal mixture, a composer may introduce a completely foreign (and often surprising) mood, while still remaining in the home key. In addition, a composer may use mixture chords as pivot chords in modulating passages, and, in this way, modal mixture can be used to increase the number of keys to which a composition may modulate. Thus, mixture chords give composers the capacity to add both emotional complexity and harmonic interest to their compositions in a simple, elegant and efficient way.

Table 1
Statements that review subject matter:
Excerpts from student reflections on their learning experience of modal mixture

5. There are two kinds of mixture, harmonic and melodic. Harmonic mixture refers to using a harmony in the major mode whose root is borrowed from the minor mode, like flat six. Melodic mixture refers to borrowing a scale step that is above the root of the chord from the minor key, such as the iv chord in a major key. Secondary mixture is also concerned with the mediant and the submediant chords. Instead of being borrowed from the minor key, they become major via accidentals that do not have to do with the minor key. This is a bit tricky because it can look like an applied chord. Using my knowledge from last year, however, I can determine whether or not this mysterious chord is functioning as an applied chord. Applied chords must resolve, while secondary mixture does not.
6. I learned that ♭VI was the most commonly used scale step in modal mixture, but that other possibilities existed too, such as minor iv. Then there were important plagal motions, such a IV to iv to I, IV to ii diminished 65 [sic] to I, and ♭VI to I. There was also the benefit of knowing the difference between melodic and harmonic mixture. Then when we learned about secondary mixture, I thought that was going to be it for the topic, but I also discovered that one can use modal mixture to modulate. The trick to doing that lies in modulating either to the key of ♭VI or ♭III. One interesting thing that I remember is that when modulating to the ♭VI in D♭ major, the ♭VI is B𝄫, which does not exist as a key, and must therefore be notated as A since it is understood as being enharmonically the same in the system of equal temperament.

Table 2a
Statements that express development of theoretical knowledge and skill:
Excerpts from student reflections on their learning experience of modal mixture

1.	This new learning will integrate with my previous knowledge specifically on the topic of modulation, as we are now learning about different types of modulation that incorporate the topic of modal mixture. Reoccurring chords to modulate to are the ♭III and ♭VI chords.
2.	Modal mixture opens up an entire new tonal area in compositions, and for me that is really exciting. … I am especially interested in the fact that it is used extensively in romantic music, which I really enjoy listening to, and have previously not been able to understand theoretically. In addition, I was very interested in the amount of emotional expression and tension that can be achieved with the use of modal mixture.
3.	Learning about modal mixture has been fairly straightforward. It seems like we already knew the information, but now it's being stated to draw awareness to it and make everything clearer.
4.	I used to think that modal mixture was just modulations, and so I did not know there was another term for the concept. … The idea that there was 'modal mixture', 'melodic mixture', and 'harmonic mixture' was frankly very eye-opening (or ear-opening). I learned how to better apply modal mixture and it makes listening to music more interesting; instead of going like, "Oh, something weird happens there, it is kind of cool, some kind of weird modulation, but I have NO idea what it is", I can go like, "Oh, listen, there's a ♭VI following that tonic chord! There's some modal mixture going on!"
5.	This topic was completely new to me, but I did find that it reinforced some of my old knowledge. In the past I was always confused when iv or IV were to be used. This helped me to understand that the cases are actually important, and when each chord is more likely to be used.
6.	While doing the analysis exercises I realized I did not have a fast enough command of my major and minor keys together. Also that I need to review applied chords, as I often forgot about them completely and would get stumped on a question if there was one. I also found practicing dictation very helpful, as I found it difficult while trying to analyze to hear all the chords with accidentals in my head at all. After practicing and becoming more familiar with what harmonic and melodic mixture chords sound like I found it easier to identify them on paper by trying to play them in my head. I think I still need to go back and practice the homework questions more to become really comfortable with the material in a time pressure situation.

Table 2a **Statements that express development of theoretical knowledge and skill:** **Excerpts from student reflections on their learning experience of modal mixture**
7. As a composer, I have always been interested in mixing modes (i.e. borrowing steps from major into minor), but never pursued learning how to do it 'properly'. In this way, modal mixture was intriguing to me, and I felt my knowledge of harmonization was thoroughly developed. … This chapter also reminded me to go over some paradigms learned last year and drill them until I can recognize them at first glance.
8. This study of modal mixture also developed my understanding of tonal theory in other ways. Most notably, it helped me to discover how mixture chords can be placed strategically to destabilize the prevailing harmony and the expectations of the listener, and how to incorporate these mixture chords into my own writing. In this way, the study of modal mixture in [this course] developed and enhanced both my understanding of compositional techniques and my ability to analyze existing works. In addition, the study of this topic provided me with an explanation for many situations where, in the past, I had thought that composers were breaking the rules of music theory. … By studying mixture chords and their uses, I have refined my understanding of how composers incorporate different tonal colours and moods into their music, and how to associate colouration with other musical elements, such as text and melody.
9. I also appreciated [the reminder] that not all chromatically altered chords indicate mixture, some are applied chords, as I sometimes only focus on the current concept we are learning and forget about past topics.
10. Thinking back to when I first started studying music theory, what I could see in the music was very limited. It would have been restricted to perceiving maybe tonality as well as differentiating between a melodic and harmonic line. Now, however, greater distinctions are becoming more and more apparent. There are a few practical components of this strength. One is that I am starting to find that it is more natural to consider music horizontally as opposed to vertically. This means that when it comes to analysis and dictations it is easier to start thinking horizontally. I believe this advance in my learning resulted from having to distinguish applied chords from modally mixed chords.

Table 2a
Statements that express development of theoretical knowledge and skill:
Excerpts from student reflections on their learning experience of modal mixture

11. An aspect I didn't realise was how often [mixture chords] functioned as altered pre-dominant harmonies. Thinking over it now, using mixture at that point really helps to bring out the dominant cadence. When leading up to the predominant, the musical characteristics tend to be centered around I and expanding it long enough to create a sense of phrasing. Then when it comes to the predominant, having a ii or IV is an acceptable option. However, it sounds very boring and unoriginal. At times, because it sounds similar to tonic still, I sometimes don't realize that it was the predominant and suddenly find myself at the end of a phrase. Placing a ii dim or iv instead changes the phrase so much in the most simplistic of ways. The addition of the lowered sixth adds that next dimension which gets the audience's attention setting things up wonderfully for cadence. It's different enough where you feel that hint of tension and wonder where it leads.
12. Getting to know what modal mixture really is made me glad. When I first heard the term for it, I did not know that it was associated with minor chords or scale steps being used within the major key, I thought that modal mixture meant the mixing of actual modes (i.e. Dorian mode, etc.)! Then I read that it was simply the mixing of the two major and minor modes that we use currently, and "aha!" everything made a lot more sense, especially in regards to music that I have looked at in the past.
13. In terms of reinforcing and developing my knowledge, reviewing this topic has definitely reinforced my understanding. If I recall correctly, last year I complicated my thinking whenever analyzing or even just thinking about modal mixture. I thought there was more to it than simply borrowing harmonies from either the parallel major or minor. Why? I don't know. But my brain is fixed now. I also understand much clearer the difference between melodic modal mixture … and harmonic modal mixture when the root of the chord has to be the note being borrowed. … From this reflection activity on modal mixture in particular, I've learned that most of what we are learning in theory I already have some knowledge of, from having a good ear and understanding of music.
14. With all my practice in employing modal mixture I solidified my voice leading skills and harmonic analyses are much easier to do and more quickly done. This ease extends to identifying (and harmonizing) applied chords, an area where I've observed significant improvement.

Table 2b
Statements that express development of theoretical knowledge and skill:
Excerpts from student reflections on their learning experience in the course

1.	Thinking back to the beginning of the semester I remember being very nervous about what [this course] would bring and how I would fare in the course. Now that the exam is drawing closer, I am happy to say that I am confident in my ability to recognize and understand the majority of the concepts covered over the semester. Not only this, but I also understand with greater clarity how dissonance and particular chords such as the augmented sixth chords, modal mixture chords and the Neapolitan second can be used in a musical context to convey particular emotions. … Accidentals seemed daunting at first, but I now appreciate and can recognize the hints that accidentals provide the eye when attempting to analyze a piece. … Since understanding music theory is not second nature to me, I will have to continue to actively practice the concepts covered in this course in order to retain the knowledge I gained.
2.	Something I particularly enjoyed right at the beginning was studying was [sic] modulation, because it was linked to skills directly, and was an important, basic skill to develop. … As a pianist (or instrumentalist in general), I was quite familiar with modulation already, however I didn't know how to go about modulating or how to hear it sensibly. Modulation was especially important to me in dictation because I don't have perfect pitch and I need to realize that the tonic has modulated to a different key. I am certainly better at identifying this now, because I am able to connect the modulation to sensible transitions.
3.	I believe that I have improved on my dictation abilities. This has also helped me with my dictation abilities in Musical Skills.
4.	I also thought that this course helped to improve my skills at analysis and harmonization. I feel like I can analyze much quicker now with fewer mistakes. I also feel like I can write counterpoint and harmonize figured bass much quicker now as well, without having to think so much about avoiding parallel octaves or fifths. Sometimes I still make silly mistakes and miss things in the music, but I am definitely improving.
5.	As a result of this class and efforts made through tutoring my analysis skills have greatly improved and I find that I am better able to recognize chords, paradigms, and modulations because of it. … The beginning of this course was quite difficult for me because I first had to go back and learn concepts from last year before I could continue learning new ones. Once I was secure and my learning gaps had been acknowledged I found that I was doing better in testing situations and that I needed less assistance from my tutor. Lectures and homework are easier to grasp and I find in general I am doing better and feeling more confident in comparison to my first year theory courses. I came into University feeling behind in theory and now I feel like I have finally caught up and am becoming a more competent student.

Table 2b **Statements that express development of theoretical knowledge and skill:** **Excerpts from student reflections on their learning experience in the course**
6. I feel that I have improved my skills in analysis, harmonization, and dictation, largely due to the important connections I was able to make between theory and my own repertoire.
7. Although I struggled with some dictation topics, overall I have gotten much better at harmonic dictation. Many harmonic paradigms are in my library and my ear can recognize them.
8. I do feel that I improved my skills in analysis and harmonization because of my work in this course.
9. I feel that over the course of this term, I have absolutely improved my skills in all three of the areas mentioned [analysis, harmonization, and ability to communicate about music]. When I look at how far I have come since the beginning of last year, the end of last year and the beginning of this year, I am amazed at how much I have learned and how comfortable I have become with it all. In terms of the beginning of this term, I have noticed significant improvements, especially in my confidence levels. … I find these skills to be very important and valuable as they help to show me that I am a strong musician.
10. As a result of my work in the course, I think that I have improved in nearly all areas of theory. Last year I could hardly do analysis or if I did any I would be guessing instead of actually knowing how to properly analyse and label chords. This year I do not need to guess anymore! I am also far better at realising figured bass and knowing what all those little numbers at the bottom are telling me to do. … Before I took this course, I would often try to see if I could analyse, by myself, music that I was signing [sic], but I found it difficult because there were often chords that simply did not fall under any category that I had learned yet. I always wondered what they were, or if they were real chords that could be labelled by a theorist. Now I know of many new chord possibilities, of more sequences, and of chromatic contrary motion. As a result I rarely find chords that I cannot name, or at least, in most of the repertoire that I sing. It makes music something altogether more familiar to me. Music becomes less of a distant and incomprehensible entity with each new lecture and chapter topic.
11. Throughout this course, my understanding of music has definitely been further developed. I can hear and recognize modulations much easier, as well as the difference between modulations and tonicizations, both sometimes before looking at the score.

Table 2b **Statements that express development of theoretical knowledge and skill:** **Excerpts from student reflections on their learning experience in the course**
12. More so than last year, I have even been able to hear the music in my head before listening to it. Some of this I think is due to my perfect pitch, but also a deeper understanding of overall musical structures and form contributed as well. … I feel more grounded in my knowledge of how music works overall. I know there are many rules and details I have yet to conquer, but I am not as afraid as I once was of classical music.
13. As a result of my work, I have improved my abilities to analyze music with far more depth of chords and figured bass comprehension. Being able to do this is important to me because it can help in the long run with understanding new concepts in other theory courses and when learning new pieces.

Table 3a **Statements that identify beneficial exercises and learning strategies:** **Excerpts from student reflections on their learning experience of modal mixture**
1. The most beneficial homework exercises for me that were assigned were the ones using figured bass. This helped me to really get a grasp on the analysis portion of modal mixture and to understand when to appropriately make chords major or minor.
2. The most useful exercises for me were the ones where we had to write modal mixture. I believe that writing something requires a fuller knowledge of modal mixture than simply recognizing it in context. Also, the writing exercises are very relatable to my composition, and I hope to be able to use modal mixture to achieve the kind of mixture of emotions and emotional contrast of the romantic pieces we studied in class eventually.
3. I continue to find in class 'homework-take-up' to be the most beneficial to my learning, as it provides a context in which to encounter one's own mistakes in the presence of someone who can correct them. Seeing my mistakes also allows me to think of new questions important to my gaining an understanding of the concept, at a time when they can be immediately answered (while still fresh in my mind).
4. I found listening, as music is such an aural experience, really helped me with grasping this particular concept. … I had read the required pages in the textbook, but for the first time, I also listened to the textbook samples (terrible of me, I know, I am very sorry). Let it be said, I will definitely be listening to more of the textbook samples because they are just so cool. Regardless, by listening to these while reading the textbook passages that described each sample, it really helped me understand the concept.

Table 3a
Statements that identify beneficial exercises and learning strategies:
Excerpts from student reflections on their learning experience of modal mixture

5. The exercises that I thought were the most beneficial to my learning were the ones where I had to actually write modal mixture. I find that this is very good practice for tests because I seem to have a problem with being able to do my theory fast enough. I also feel like if you are able to write the modal mixture, you will be able to recognize it in an analysis. … I also always find the analysis questions useful because they help me to understand the voicing and resolutions of the chords. I find it helpful that I can see the whole score written out in front of me.
6. I found that the exercises that were most beneficial for my learning on modal mixture were the analysis questions and the melody harmonization for chromatic modulations, and the harmonization for common tone chromatic modulations. The reason the analysis questions were so useful is because it solidifies paradigms, and it requires that you understand the differences between modal mixtures [sic] and how it can modulate based on a pivot chord, or common tone. The melody harmonization for chromatic modulations was important because it helped to put the context of what we read and learned about in class into a practical setting. It also required that you understand how to take a major key and its parallel minor to find possible pivot chords. The reason common tone chromatic modulation harmonization was important for me is because it allowed me to see if I really understood the difference between using a pivot chord to modulate and modulating from flats to sharps or sharps to flats.
7. [Workbook] exercises devoted to compositional practice were most helpful for me here because they offered an opportunity to employ modal mixture in a more controlled environment; the textbook examples and listening exercises stimulated my imagination and allowed my ear to more intuitively discern these wonderful harmonies. I really enjoyed plunking out the textbook examples on my own.
8. I found that figured bass exercises were most beneficial to me in the modal mixture unit. Analysis and harmonization questions were helpful as well, but I felt figured bass exercises really helped drill the concepts of the unit into my brain (particularly because of the accidentals included in the figured bass).
9. I found that I derived the most benefit from the exercises that required either figured bass realization or melody harmonization. The difficulties that I encountered while completing such exercises led me to conclude that I should spend some more time reviewing the important harmonic and melodic paradigms. Having also struggled with time management on the previous midterm test, I feel that a stronger knowledge of these paradigms would help me to complete the harmonization and voice leading components of future tests more efficiently.

Table 3a **Statements that identify beneficial exercises and learning strategies:** **Excerpts from student reflections on their learning experience of modal mixture**
10. As usual, the exercises I find most helpful were the analysis questions paired with the recordings. Aural reinforcement of the concept adds a great deal to my understanding.
11. I found all of our homework activities to be equally helpful in my learning in different ways and across different stages. Analysis was helpful for me as a "first step" as it allowed me to clarify any questions or confusion I was having about the rules and concepts surrounding modal mixture. Having to look for and hear examples of modal mixture myself within a relevant musical context (as opposed to just looking at [the textbook's] pre-analyzed examples) really helped me to gain a greater understanding of the contexts in which modal mixture can occur. As a "second step", I found voice-leading, figured bass, and melody harmonization exercises helpful in testing my knowledge and understanding of concepts and harmonic/melodic paradigms surrounding modal mixture. In analysis it is possible (although not ideal) to ignore paradigms and just look at each chord individually, and so sometimes I find that I am not necessarily paying as close attention to paradigms as I would be when I have to write them myself. By actually having to write progressions, I was really able to take a more self-reflective stance and make sure that I had a really thorough understanding of paradigms.
12. The exercise most beneficial to my learning of modal mixture was the writing. Writing out progressions and intentionally putting in flats/naturals to make the modal mixture chords is helpful in contextualizing the concept. It allows me to see and "feel with my pencil" exactly what modal mixture looks like and how it works in musical examples.
13. The exercises that were most beneficial to my learning was [sic] some general dictation practice, and roman numeral harmonic analysis, because they both forced me to think through and pinpoint the notes being used in modal mixture.

Table 3b
Statements that identify beneficial exercises and learning strategies:
Excerpts from student reflections on their learning experience in the course

1. Doing the assigned homework exercises consistently helped me the most to get a better understanding of the little rules that each concept has individually.
2. I found that the material in the course was fairly easy to grasp due to a few reasons. Firstly I have been able to relate the topics to my piano repertoire, so I have a better understanding. Part of the reason for connecting these relationships is the fact that we had to do reflections throughout the year. These honestly helped me a lot in developing an insightful explanation of each topic so that it would last in my mind long-term, and not just learn and fade.
3. One of the most significant learning tools I took from this course was the importance of listening to music before analyzing it. I mean this both literally and in reference to the internal listening we learned about (attempting to hum or hear the tune in our heads using skills techniques).
4. With both modulations and modal mixtures, it really helped to play the exercises from the … workbook onto a piano to better hear the progressions. … Something we did in classes that really helped was singing the homework exercises before we talked about them. It really helped to internalize the music.
5. I also found doing the dictation homework extremely helpful, not just for dictation but for analysis and my understanding of each unit.
6. The activities that were most beneficial for my learning in this class were the analysis, figured bass realization and melody harmonization exercises. This is because these exercises kept allowing me to practice paradigms and because they showed me if I understood the concepts explained in class and in our readings.
7. I feel that I was able to have a much greater understanding than last year because I applied the theory learned in class to the music I study in studio. … I also enjoyed the enriching activities and reflections. If we hadn't had to do either of those assignments I don't think I would have understood why studying theory is important or improved as much. … I found it very rewarding to be able to find the concepts we were studying in class in my repertoire and then understand how that phrase should be treated and what purpose various moment [sic] in my songs have. I also found that the more thought I put into my work the better my grades were, which is a good incentive to keep trying to understand each concept well enough to find it in real life situations.
8. Singing the harmonies has also helped immensely because I can "feel" the harmonies in my body, which I've come to think is an important skill for composers to learn.

Table 3b **Statements that identify beneficial exercises and learning strategies:** **Excerpts from student reflections on their learning experience in the course**
9. I believe dictation is the most useful aspect of this course. Training the ear to listen for inner voices is especially useful onstage or in a choir. As a singer, there are no "fingerings" upon which you can rely for a correct note. In a dramatic scene, a singer must produce the correct pitch without referring to the score; this would be easier to accomplish if they understood and heard the relationship between their starting note and the scale steps in the melodies of another singer or the orchestra.
10. As mentioned in some of my previous reflections, I find writing exercises (i.e. figured bass, soprano harmonization) and analysis both hugely beneficial to my learning in different ways. I find that writing exercises are good as a "first-step" in that they help me to confirm what I have learned in the textbook and class and to develop a concrete understanding of paradigms and harmonic functions as I learn them. For example, when learning about augmented sixth chords, writing activities helped me to make sure that I understood which scale degrees belonged in each type of augmented sixth chord and how each chord had to resolve. Analysis activities, on the other hand, feel more like a "test" of my learning, as I have to identify harmonies and progressions within a larger, more complex musical context. If I approach an analysis question and am completely unsure of what is going on in the music, then I know that I need to review concepts and maybe go back and do some more writing exercises in order to clarify my understanding. I really realized the true benefit of both [of] these types of activities in the second half of the term. After our first term test, I was quite unhappy with my mark. I wasn't able to finish the test in time, and I realized that because I hadn't been doing all of the assigned homework, I was really at a disadvantage in terms of being able to identify harmonic paradigms *quickly*. I did every single homework question assigned between our two term tests, and it definitely paid off. My mark on our second term test was almost thirty percent higher than the first test, and I credit that to my having had lots of extra practice!
11. Listening to the scores before analyzing them became a good habit that usually helped make analyzing a lot faster, easier to do.
12. I am no longer double or triple checking my work, or searching through the textbook to see if something I … did that is related to a previous chapter was right. Now, I can just check it over once, and know that what I have written is probably right, and that I know my stuff. I am very proud of this accomplishment. I believe that most of this has come directly from lots of practice with the course work, and repetition of working with it every day.

Table 3b
Statements that identify beneficial exercises and learning strategies:
Excerpts from student reflections on their learning experience in the course

13. This term I learned and understood new things that I never would have imagined I could. Since I initially struggled in the most basic concepts of theory in first year, I had to constantly discipline myself this year to better understand those basics of theory and harmony in order to progress and apply all of the new things that we learned. Doing this was important since all the new material could be linked to old concepts. My knowledge could grow and grow because finally I learned how to make connections. Throughout the term the reflections aided in reinforcing these connections. By articulating what I learned in words, rounding up the flurry of new information was a daunting task no longer. Finally being able to understand theory and to follow the new concepts is a wonderful, comforting feeling that enhances my life as a musician, and makes me feel worthy of identifying as one. … I have made a lot of progress this term and I feel more confident in what I have come to learn than ever before. By also learning how to look back and reflect while taking in new information, I could process everything much better. I am no longer afraid of theory as a result.

Table 4a
Statements that address learning challenges:
Excerpts from student reflections on their learning experience of modal mixture

1. I find I'm struggling with noticing the difference of when the mixture is harmonic or when it is melodic. I realize the difference between the two depends on the chord tones that are being borrowed from the minor mode but when it comes to noticing which mixture it is, I don't fully understand how to do that. Maybe going back to some of the exercises and purposely trying to figure out which mixture is being used will help me better understand this problem.
2. Initially, modal mixture felt like a real challenge. It seems to me that it was the first step to expanding the foundational knowledge gained this semester regarding chromatic harmonies. At first I was confused and frustrated. I had successfully comprehended applied chords and diatonic modulations and suddenly chromaticism had to come along and shake things up. I was nervous about the difficulty that comes with having too many options for deciding what an accidental can indicate. I was content with an understanding that an accidental indicates a non-chord tone, an applied chord or a diatonic modulation. I was scared to throw modal mixture and chromatic modulations into the mix. However, with a little practice and some reassurance that I was completing my homework correctly I realized that the foundational knowledge from concepts previously learned this semester could be applied to navigate through modal mixture with ease. In fact, with only two main scale steps to worry about so far (me and le) it might even feel simple. … During the lecture on modal mixture, I also experienced a positive change in my understanding of the academics of music for the first time. I have always had a strong physical and emotional sense of music, but there is often a block between my inherent understanding of music/sound/emotion and my ability to express and understand music verbally and theoretically. The words confuse me. I would rather listen and feel music than judge and understand it. However, during the modal mixture lecture I was able to understand (for the first time) which chords you were referring to solely through your use of the terms do, re, mi/me, fa….etc. In first year I required constant visuals and slow speaking to keep up with the professor in class, but I feel I am becoming more familiar with the musical vocabulary at the university level. This is very exciting for me. … In order to succeed in fully grasping this concept, I will need to constantly review my notes and keep up with the assigned homework.
3. The dictation exercises were kind of frightening, in all honesty, because it took a while for me to get the longer passages. I could hear the modal mixture occurring, but getting the right notes took a couple of exercises. Eventually, doing more of the exercises helped, and only encouraged me to reread more on modal mixture and digest the concept more.

Table 4a
Statements that address learning challenges:
Excerpts from student reflections on their learning experience of modal mixture

4. I wasn't grasping the concept of how you apply enharmonic keys to finding a common tone modulation. During analysis I struggled with understanding how to identify the common tone. I took this problem to my theory tutor and was able to resolve the issue and develop a strategy that took me step by step to figure out what kind of a modulation I am working with and how to analyze it.
5. I found modal mixture to be the most challenging topic we have covered this year. I think that because I sing so many lieds [sic] in my studio the sounds of mixture chords in that repertoire in particular did not stick out to me as something new. The most helpful thing to overcome this was to sit down and analyze a couple short lieds [sic] that I have sung. I found it particularly helpful to analyze parts of "Liebe schwärmt auf allen Wegen" and "Die Forelle" both by Schubert. This helped me understand modal mixture better because I could see it at work in my own repertoire and understand the purpose it serves in adding emotional and dramatic impact to the words and lines of the song. For example, Schubert used mixture chords to emphasize the word alone in one of my songs, which really intensifies that word and draws attention to it.
6. I can say that my understanding of horizontal reading of music is lacking. When composing something with modal mixture I tend to write vertically as opposed to looking at the greater picture of music and writing horizontally. To gain a better sense of composing music horizontally, I will have to better understand musical paradigms and be able to recognize them in repertoire. As well, I must practice using these different paradigms in composing to feel comfortable writing horizontally as opposed to vertically with modal mixture. … I know that I need to practice and memorize musical paradigms as well as strengthen my abilities to recognize modal mixture in play versus tonicization.
7. I find it difficult to hear the quality of some chords serving prolongation function in the context of progressions, so hearing mixture chords proved a challenge for me. Melodic mixture triads are harder to catch in dictation, since only one note (often the 3rd) is lowered or raised by a step; however, in my head they are easier to imagine **isolated** for the same reason. In contrast, harmonic mixture triads in root position are usually easier to hear in dictation, because the bass voice must jarringly deviate from the scale steps belonging to the original key. Although, harmonic mixture chords are harder to imagine, since there are no similar chords (i.e. with roots on the same scale step) in the original key, and more than one scale step must be lowered (usually the root and the fifth). Hearing these chords in my head can be aided by thinking and singing them in solfège. What I find most effective is focusing on the quality of the chord (i.e. Major), and separating the chord mentally from the tonality of the rest of the phrase.

Table 4a **Statements that address learning challenges:** **Excerpts from student reflections on their learning experience of modal mixture**
8. I found one lecture particularly beneficial about the accidentals in figured bass. I learned, it is more helpful to look at the bigger picture and the possible harmonies that note could represent, write the notes/harmonies on the staff and apply all the accidentals necessary for that key first. The last step should be to compare your work to the figured bass and ensure all of the correct accidentals are present. This approach is much more musical and less stressful, compared to seeing all the accidental signs in the figured bass and trying to understand them all out of context.
9. I don't feel as solidly grounded in my learning on modal mixture as I did with modulation or binary form. I feel that the pace with which new information is introduced and expected to be absorbed has accelerated. Or more accurately concepts are being combined more and more intricately demanding that I draw on a deeper well of knowledge … Modal mixture on its own is a simple enough concept but in combination with modulation I need to put in more time or work to understand fully. … I did not, I admit have time to do all the assigned exercise [sic] which perhaps is the reason for my slightly shakeier [sic] understanding.
10. The one major struggle I have been facing with these chapters has been with chromatic modulation. Chromatic step-wise bass descent I also do not fully understand, but I feel that is a very simple fix as it just requires some time to write out that motion in a number of different keys to sort it out. With chromatic modulation it still does not feel comfortable or easy to recall, which likely means that I have not understood the concept. What has been helpful so far has been writing out the chords built on each scale degree in the major, parallel minor and the key which is being modulated to chromatically … in order to determine which can serve as pivot chords. I will spend some time going through [exercises] so that knowing which pivot chords to use with chromatic modulation becomes more solid. The main thing that is required at this point is to spend time working through exercises targeted towards the areas [where] I am struggling to solidify understanding those concepts. With the weight load of other courses increasing it means that the time spent working on theory will need to be more focused.

Table 4a
Statements that address learning challenges:
Excerpts from student reflections on their learning experience of modal mixture

11. The most difficult concept for me to work with is modulation involving modal mixture. Although I understand modulation and modal mixture, including the concepts behind them, sometimes I find it hard to figure out where exactly a piece modulates to; in other words, it is hard to find the pivot chord. For example, [a workbook exercise] involves a very tricky modulation from A major to ♭III (C). It is tricky because right after the pivot chord, the piece incorporates modal mixture … and so it is difficult to figure out what is happening, and where you are actually modulating to because there are so many accidentals. It gets even more confusing when there is an applied chord thrown in, (a V/iv), shortly afterwards. Then after a [PAC] in C, it modulates back to I(A) … This example is tricky because there are lots of accidentals involved and it is hard to tell whether those accidentals are due to modal mixture or modulation.
12. While learning about modal mixture, I discovered that it is important (for myself, anyway) to write out the key chart that includes the key signature and all of the chords in that key. … This helps me make sure all of the accidentals are correct, and that I am analyzing the chords correctly as well. It also helps me work faster.
13. I do have concern with regards to incorporating these new techniques and writings into my dictation practice and ear training. … I think that I may need to really buckle down in order to notice the different modes of each chord and incorporating [sic] inversions into that understanding.

Table 4b
Statements that address learning challenges:
Excerpts from student reflections on their learning experience in the course

1. On the other hand, the course showed me holes in my previous learning that I still have not addressed properly and unfortunately have affected me when attempting to put it altogether. Examples of topics that are a struggle for me would be cadential six-four chords and applied chords. I found I had the most trouble with these when it came to dictation tests and harmonic analysis questions in homework exercises and on the term tests. I found the material studied in this course the same level of difficulty to grasp as other theory courses. This is because the new topics that were taught were integrated with previous knowledge and having to comprehend the two together takes time.
2. The introduction of the Neapolitan and Augmented sixth chords are still a struggle for me to incorporate into my work in terms of writing, but I have had no problems listening and hearing them in analysis.

Table 4b Statements that address learning challenges: Excerpts from student reflections on their learning experience in the course
3. This course did show me gaps in my previous knowledge. I need to take some time and rememorize the types of sequences and all of the paradigms. I think if I knew the paradigms I would be able to harmonize figured bass so much quicker and more correctly. I also think I need to sit down and spend a lot of time practicing. Once I do this, I think my understanding will improve a lot.
4. My Achilles heel this term was dictation. I really struggle to reproduce the music in my head. However, I do believe my skills in dictation have improved a lot … This has been a gap in my knowledge since last year and is something I will continue to work on. … I also realized that I become a bit disoriented when there are a lot of accidentals in an exercise, I sometimes forget to put important accidentals and need to pay more attention to this detail when I write the final.
5. I display strength in formal analysis but not in harmonic analysis as much. With dictation I must recognize the paradigms that I learn. With composition I must remember key voice leading rules that will help me compose quickly in tough situations. I am capable however, of figuring out what I need to do to strengthen my theory skills.
6. One thing that I need to address now that [the] course is coming to a close is being able to [notate] what I hear. When I see the notes on a page I can hear them in my mind, however when unfamiliar notes are played without any previous visual indication I find myself lost. What I need to do is become less visual when it comes to music, because music is after all an auditory thing.
7. I do still find some gaps in my knowledge of musical theory but it is very specific to form and analyzing form. … When analyzing music for form things can be up for interpretation at times and there are always exceptions to the rules. This fact frustrates me very much so in that there are no hard and fast rules to determine different form styles but instead there are guidelines.
8. For some reason I never got the hang of picking up applied chords in dictations. I would have liked to have more time spent on aural recognition of new chords [sic] types and modulations in class; although I concede that there isn't much time and a lot of thing [sic] that need to be covered. This may reflect a gap in my previous learning...
9. I am proud with how far I have come with dictation, but still wish I would have been able to improve more. I have worked really hard to achieve what I have achieved, and am happy with the results.

Table 5a
Statements that express motivation:
Excerpts from student reflections on their learning experience of modal mixture

1.	The main question that studying modal mixture brought up for me was when we will progress to music that will modulate without any movement into related key areas or common tones. I thought of this question because I am very interested in the expanded modulation possibilities of modal mixture, and I look forward to looking at more chromatic music in theory.
2.	This unit also motivated me to keep on top of my homework as I found the concepts to be more difficult to integrate with my previous knowledge. To combat my difficulties I will redo many of the homework questions and have started dictation tutoring sessions.
3.	I do now wonder, however, about certain other chromatic harmonies that I've noticed in my work. I often use very bizarre chords (at least to me), especially with *fi* or *si* mixed with *te*. I'm excited to understand the harmonic implications of these notes and chords (if there are any) and further this harmonic vocabulary that is consistent with my compositional style.
4.	I really enjoyed our study of modal mixture for a variety of reasons. As we continue to learn more about chromatic harmony in class, we have an ever-increasing number of forms, harmonies, and paradigms available to identify and to write. Having this wider range of options really makes learning about theory a lot more interesting for me as it enables me to be creative in the progressions that I write, and it allows me to have a greater appreciation for the richness of the music that we study and analyze. Modal mixture was yet another way of expanding my musical world in this way, and it has really allowed me to find more joy in my theory studies.
5.	In conclusion, the topic of modal mixture has brought forth knowledge that I had but never realised I had. When there is modal mixture in a piece I can identify it with more refined language, and can emphasize those moments with further expressiveness. I am happy that we are learning about theoretical concepts that emerged in the 19th century, because that century is my favourite century, and being able to understand the music of that time brings me immense satisfaction. Though the concepts are becoming more complex, I enjoy learning about them very much.

Table 5b **Statements that express motivation:** **Excerpts from student reflections on their learning experience in the course**
1. [This course] has definitely been an enlightening theory course for me that has both furthered my knowledge of theory and witnessed the birth of the theory geek within me. … When I realized that [this course] was almost over…I was actually quite disappointed. I used to want to do more analysis because I thought it was less work, but I was *just* able to write really cool harmonies! I learned much more than I thought I would, mostly because I did not think I would be particularly inspired or enthusiastic about any concepts covered. However, I think with the usage and application of music that made me musically geek out, [this course] was a lot more educational and exciting than I had expected.
2. [This course] was able to pique my curiosity about what other concepts in theory would be helpful to know and apply to repertoire. I found that sometimes when studying more modern repertoire I wondered if there was some sort of "method to the madness" in some instances. … I plan to take the skills I learned in this course and integrate them into theory next term when the focus is shifted to Form and Analysis. I will also continue to practice dictation to improve my listening skills in preparation for next term.
3. Besides providing me with a new harmonic palette, [this course] has pushed me even further into a world of chromaticism that I'd never thought to explore. I've begun to study the atonal works of Bartók and Stravinsky and I look forward to eventually exploring this atonal world about which I have many questions.
4. In summary, despite the work load and hard work, I enjoyed this class and I know I will use many of the skills this class taught me. … I hope to build on my knowledge I gained in this course and use my knowledge to create great music to help others.
5. I look forward to having my musicianship improved upon even further in [the next theory course].
6. My question is, outside of atonal music and within the boundaries of harmony (i.e. not form), how much more would there be to learn? Is what I have learned only a small amount of what musical harmony is all about?
7. I will continue to strive to improve my dictation skills by making myself thoroughly familiar with the specific sounds of each chord, each paradigm, and other common patterns that my ears should be able to pick up. I must never assume that my dictation level is adequate enough because there is always more practise for me to do, and there is always room for me to improve significantly.

Table 5b **Statements that express motivation:** **Excerpts from student reflections on their learning experience in the course**
8. Until this term, I never really thought of myself as a composer … In discovering my desire to compose, this course has introduced some questions for me; when it comes to the 'rules' of classical writing, how can I find my voice as a composer? Will I follow these rules to a 'T', or will I break them over and over? What makes a good composer, someone who has a mind of their own, or one who writes technically?
9. I personally feel that this course has inspired me to really delve into the topic of Music Theory and to consider it as something to pursue going forward in school. … I find that as I learn more and more about music theory, I gain more interest in it and how it has developed throughout the centuries.

Table 6a **Statements that recognize relevance and transfer of learning: Excerpts from student reflections on their learning experience of modal mixture**	
1.	Furthermore, something else that I found to be quite interesting was learning about notating ♭VI in a certain context. It's pretty fascinating, yet makes perfect sense that if notating the modulation to ♭VI in a key that has scale step 6 flattened already, you would notate the new key enharmonically on the score, while still maintaining the impression of ♭VI on the analysis. An example we talked about in class would be if you were in D♭ major and were modulating to ♭VI, you would notate it as B𝄫, but as in A on the score. This makes it far easier for the musician to read, because B𝄫 is a "non-existent" key. I played a Liszt consolation last year in D♭ major actually, and this exact problem occurred, however it was notated as a chord structure in B𝄫 and not A. My studio professor recommended later that I think of it in A, and it helped tremendously. This just goes to show you how useful this idea is.
2.	Modal mixture is also an exciting concept because it increased my appreciation for an understanding of music (as opposed to simply experiencing it). I think it is fair to say that without modal mixture, composers would lose a great deal of the material they work with to depict emotion in music and paint pictures with music. The contrast offered through the use of borrowed scale steps from the minor and major modes offers so much power to create emotive music. If I can really grasp which mixtures evoke which emotions, I will have a much more creative palette from which to write my own music. Especially as a singer and lyricist who focuses a great deal on poetry in music, modal mixture is a powerful tool to have.
3.	This was my first time hearing about modal mixture, and learning about it had me reacting like, "Oh, wow, this is what happened in that piece by so-and-so!" It opens up infinite possibilities; it gives the student musician a lot more to experiment with and helps with the understanding of what happens in the repertoire they study. … It answered a lot of questions I had regarding my analysis of my own repertoire. This unit on modal mixture was very enlightening and has me excited to apply it more in my musical learning.
4.	The knowledge of modal mixture significantly expands the way music progressions can be written and enriches my musical experience.

Table 6a
Statements that recognize relevance and transfer of learning: Excerpts from student reflections on their learning experience of modal mixture

5.	I also found it very beneficial to have a class where we talked about modal mixture in lieder, and we looked specifically at "Lachen und Weinen," another Schubert lied I am quite familiar with. Talking about "Lachen und Weinen" really helped me understand where and how modal mixture is used in the kind of repertoire I sing all the time. … In conclusion this unit of theory was challenging for me, but expanded my knowledge about my own repertoire, and reinforced what I already knew about harmony because I got to practice all of my old skills while adding on the new information about modal mixture.
6.	Modal mixture came just as I was finishing a composition and preparing it to be performed at the Student Composer's concert that coincidentally incorporated lots of modal mixture (though I was unaware of the fact at the time of its writing). In my music, ♭VI and ♭III (as well as other chromatic textures, such as ♭II and ♭VI [sic]) appear frequently in major modes. Until modal mixture, however, I didn't understand the theoretical basis of these compositional devices. Our coursework helped me explore a whole new range of uses for these coloured harmonies and I gladly integrated them into my work and performance, treating them in a new way. … For the enriching activity, I decided I would explore some of my old compositions in an attempt to see where and how I employed modal mixture and it really surprised me how frequently it appeared and sometimes how well I used it (though this was not always the case). I learned a great deal from this exercise including how to properly place modal mixture contextually; how to inform harmonically the rest of the piece after modal mixture has occurred; and most interestingly how to notice the function of modal mixture.
7.	I found this study of modal mixture to be very satisfying, because it provided me with a brand new means of explaining many of the musical devices and elements of the music that I routinely play on my instrument. Specifically, this study enabled me to explain the modulations to seemingly unrelated keys that I have observed in many of the Romantic period compositions that I have encountered, and gave me considerable insight into the techniques that composers use to evoke emotions through their music. In particular, I was intrigued by the parts of the unit that examined how composers use mixture chords to establish parallels between the emotions of their music and those of the accompanying text.
8.	In playing my own repertoire, I had been able to recognize that a piece had modulated and it was not a closely related key. Now, I understand that this is possible by means of mixture chords in the home key being used as a pivot chord.

Table 6a **Statements that recognize relevance and transfer of learning: Excerpts from student reflections on their learning experience of modal mixture**	
9.	Knowing about modal mixture has helped me finish my analysis of the Schubert Impromptu I am working on. The piece begins in A♭ major. As I was playing through the piece I was surprised by the many extra flats that came up. Now, however, I can understand that Schubert is drawing from A♭'s parallel minor, which could have a g♭ and f♭ in it. I can see how the modal mixture is effective in this Impromptu; It adds strong contrast, suspense, and yearning for resolution back to the home key. It also adds drama and passionate emotion. Schubert also used modal mixture to modulate to a far key. … Schubert modulates from D♭ major to A major, which is the enharmonic spelling of b𝄫. This was quite a challenging connection for me to make at first. I had started to play this piece in the summer and at the time, had no idea why Schubert suddenly decided to go to A major after all those flats. I also could not figure out how it melted so smoothly with the rest of the piece. Now, with my new knowledge, I can understand it as a direct enharmonic modulation to flat six. It makes such a dramatic effect! Understanding modal mixture has allowed me to make a tonal map of the Schubert which will be very helpful when I have to memorize the piece next term.
10.	While reflecting on the chapters on modal mixture, a concept came to mind that was introduced in a sociology course I am currently enrolled in. The concept stated that our language shapes our consciousness. Another way of putting it is that what we are able to perceive is shaped by the richness of our vocabulary. This concept felt very relevant as the chapters on modal mixture introduced a new layer to the musical language and vocabulary that is gradually being developed. I now find that when I look at and hear music it is easier [to] perceive more and more details of what is there.
11.	Our study of modal mixture also made me realize how often I take compositional intricacies for granted. As a singer, and one who loves singing German lieder, I come across modal mixture quite frequently in the repertoire I study. Studying this music, I always knew that there was a lot of modal mixture involved, but it wasn't something I could previously put a name to or logically identify. Having this new knowledge of the rules, guidelines, and contexts in which modal mixture operates provides me with a better understanding of its occurrence in the music I sing. As with everything we learn in theory, having this increasing understanding of theoretical concepts allows me to create a more polished and musical rendition of whatever repertoire I am learning. I also have a better appreciation for the composer's use of modal mixture, and the way in which he or she uses it to create certain emotional tensions or conflicts within a work; and having this appreciation makes me want to work even harder at bringing a song to life!

Table 6a
Statements that recognize relevance and transfer of learning: Excerpts from student reflections on their learning experience of modal mixture

12.	Learning about modal mixture was really interesting to me because it is something that I notice and come across frequently in the music I sing. I always knew it was there and that it frequently served expressive function, though I never knew what the technical term for it was. I love singing German lieder and it is wonderful to be covering a topic that appears in that repertoire. … we looked at the lied "Lachen und Weinen" by Franz Schubert, which had great examples of modal mixture. I sang that song on my jury in first year, and I remember the specific moments where it would sound minor to reflect the mood of a certain phrase. … Afterwards it becomes major again. The contrast of moods created by modal mixture in this lied really bring across the idea of confusion and conflicting emotions that arise from love. Now whenever I feel put out by love I will think of it as being a flat six kind of day.

Table 6b
Statements that recognize relevance and transfer of learning: Excerpts from student reflections on their learning experience in the course

1.	[This course] has contributed to my current knowledge and new learning immensely. Over the course of the semester I have gained a great deal of information that can contribute to my ongoing learning of music and continue to assist me in my music career ahead. Coming into [this course] I did not expect to learn as much as I did throughout the semester but I am extremely pleased to be walking away with so much more information than expected. It certainly developed my understanding as it is now much clearer to me how all aspects of music theory tie in together to produce the music we read and play today.
2.	Theory is great because it is really important to be able to communicate about music. If I was to give a public master class, I would feel a lot more comfortable now than I would have a year or so ago because I wouldn't have known how to identify certain aspects of the score then. A project that I am working on at the moment in my piano studio (Do It Yourself project) involves me describing certain sections of the piece I'm working on, and it sure helps to know the names of these sections. … Finally, I think every year that theory helps my ability to sight-read because I become faster at analyzing harmonies and structures (like sequences or motifs). It is very beneficial to my learning as a musician and a great course.
3.	My interest in music therapy and the skills required to improvise in this field resulted in [this course] having more relevance in my life.

Table 6b
Statements that recognize relevance and transfer of learning: Excerpts from student reflections on their learning experience in the course

4.	A lot of the concepts covered in this course draw on examples from Schumann, Schubert, Chopin, and other Romantic composers, which for me was awesome, because I am working on a huge Schumann piano sonata. Listening to modal mixture, augmented sixth chords, and all that chromaticism has definitely made analysis and overall understanding of structure of that sonata easier. … As an aspiring performer, the realization and interpretation of music is really important. I find that I am able to make a more accurate harmonic analysis of larger scale works, because the chords I did not know how to analyze before have been introduced in this course…Due to the greater number of topics covered that is directly relevant to my performance repertoire, I am more willing to study the theoretical concepts from this course and apply them in my own musical interpretations… This course definitely contributed to my development as an aspiring professional performer and made me more aware of my own musical interests.
5.	I'm also starting to see the different concepts I've learned from [this course] in my solo music. Seeing different chords and patterns that I've already learned help me to internalize and understand the music more. … I also have a better understanding of the music I learn for my masterclass. I even analyze my repertoire books.
6.	I would say that through [this course] I was able to cultivate a deeper understanding of music. This course helped to solidify paradigms that I had already learned as well as to build on them through new course material. I found as the course continued, I was able to apply concepts learned in theory to other courses. For example in 2nd year history, analyzing scores and listenings is easier after having first learned these skills in theory.
7.	The connections between theory and performing my music became very clear to me this term. Last year I didn't completely understand why I had to study theory, and as a result my grades and interest in theory suffered. I now understand that the way composers have constructed their compositions is very deliberate, and important to understand if I want to give an authentic and well thought out performance. For example, I found it very valuable to analyze famous German lieder while studying Modal Mixture. This unit of study made it obvious to me that what we study in theory has a direct effect on how I will learn and interpret the lieder I am given in studio. Since studying this in theory I am not as frustrated by the sometimes unexpected harmonies and moments in the lieder I am assigned, and try to use them as moments of great expression or outbursts of emotion, as the composer intended… This course has been very relevant to my learning and one of my favourites of fall term.

Table 6b
Statements that recognize relevance and transfer of learning: Excerpts from student reflections on their learning experience in the course

8.	Our foray into chromatic harmony has benefitted my compositional skills by introducing me to concepts I innately heard but could not transcribe from my inner ear onto paper. … Overall, I believe my skills as a composer have been greatly enhanced because our practice in aurally identifying these sonorities (my main difficulty) and then applying our aural skills to their construction has greatly improved. I can (for the most part) hear a passage and be able to transcribe it with relative ease now, whereas it was a very time consuming and dissatisfying process before.
9.	Understanding theory has improved my process for learning repertoire. I find it useful to see skips or runs in melodies as arpeggiated or embellished harmonies, in addition to their respective solfège names. Recently I encountered a phrase that outlines an applied chord, which made tuning easier to accomplish. In addition, while I doubt that I will analyze specific chords in my repertoire, hearing the voice leading related to resolving and prolonging augmented sixth chords and Neapolitan chords (moving between tendency tones on either side of a scale step) is helpful when sight-reading. In addition, it is easier to memorize songs by seeing the overall form of the music, and how the form is comprised of harmonic and melodic patterns in the phrases.
10.	After learning new harmonies and most recently, chromatic sequences, I have discovered connections with my lesson repertoire. I play trombone, and many of my study [sic] are sequential, often containing many accidentals. As the trombone is a chromatic instrument, I also realized that many warm-ups I do daily, could be analyzed as a chromatic sequence. Having this knowledge means that I fully understand what I am playing, and I am now able to create more warm-up patterns as I understand the harmonic groundwork they follow.
11.	I found that the content in this theory class could be easily applied to my repertoire. For example, I am working on a Mozart sonata and although I have not studied sonata form in detail yet, I can understand the tonal map of the piece by understanding how it modulates. Modulation is also important in song writing and since I hope to go into music therapy, I can apply my knowledge to modulate a song according to the needs of the client. I enjoyed studying modal mixture. Modal mixture is another application I know I will use in the future because it allows for word painting, another effective technique in song writing.

Table 6b
Statements that recognize relevance and transfer of learning: Excerpts from student reflections on their learning experience in the course

12.	I found this course relevant to me particularly as an aspiring composer, for which I think it is crucial to have a solid grounding in harmony and previous conventions for harmonization. Also as a piano player I can recognize what harmonic motion is taking place in the pieces I'm playing quicker and with greater accuracy and thus play with a greater understanding of the music. … Overall I feel I've gained valuable knowledge that will help me as a musician moving forward. I believe I can more intelligently perceive and communicate about music which are important skills to have and build upon as a professional musician.
13.	The further I progress along my journey as a musician, the more I come to appreciate the importance of learning music theory. [This course] has definitely provided me with the most practical knowledge out of all the theory courses I've taken so far. Because the concepts covered in first-year theory were more limited and basic, they weren't as helpful in my understanding of the repertoire I was studying and singing. Of course the basic harmonies and forms learned in first year were *present* in the repertoire, but in general there was a lot more to the songs I was learning that what I could understand. Having completed [this course] now, I really feel like I have a much more comprehensive understanding of the music that I sing and study outside of theory class. Because the breadth of my knowledge has increased, I have the ability to really appreciate what goes on in the music I learn. In turn, this understanding helps me not only to learn music faster, but also to have a better appreciation for what the composer was trying to accomplish in a song. I can then work towards bringing the composer's objectives to life in my interpretation of their music. The building blocks that were given to me in [this course] really have impacted the way I understand and listen to music, and I truly believe that this richness of understanding makes me a better musician.
14.	As a potential music therapist, it is important to be a good musician. The more familiar I am with music and its workings, the more easily I will be able to incorporate complicated music into therapy sessions…I do feel that improving my harmonic dictation skills would be helpful in my future, whether that involves music therapy or not. The skills I gain from harmonic dictation include things like paying attention to more than one aural cue at a time, musical memory, and solfege, all of which will be helpful in a career involving music. I would like for these skills to continue to grow, as they can only help me as a musician.

Table 6b
Statements that recognize relevance and transfer of learning: Excerpts from student reflections on their learning experience in the course

15.	I can read and listen to music with a greater understanding. When I was younger I really had a very blank mind when I examined music, and now it swarms because so many things jump out at me that I can recognise. This is important to me because when my professors point things out in the music I fully understand what they mean, and I can better follow their advice and suggestions. It helps with learning notes, with knowing where to place emphasis, and even with highlighting the most expressive moments. Before I took this course, I would often try to see if I could analyse, by myself, music that I was signing [sic], but I found it difficult because there were often chords that simply did not fall under any category that I had learned yet. I always wondered what they were, or if they were real chords that could be labelled by a theorist. Now I know of many new chord possibilities, of more sequences, and of chromatic contrary motion. As a result I rarely find chords that I cannot name, or at least, in most of the repertoire that I sing. It makes music something altogether more familiar to me. Music becomes less of a distant and incomprehensible entity with each new lecture and chapter topic. … What we learn in theory will always be useful to me in my life as a musician, and I am very grateful for it.
16.	I have noticed during most of my 'jam sessions' with musicians I play with occasionally outside of school that my improvisational skills have greatly increased. I am able to guess what is going to happen before it does, and act accordingly. Finally, I have a reason to be excited about theory! This is very important to me, because playing music with other people is something I enjoy immensely. However, time is precious—so the more efficiently I can produce better music, the better it is for me, and for those involved. … Overall, this course was relevant to me mostly in terms of musical thinking. It's one thing to play notes off a page, and another to feel the music, to put emotion into it and make it my own. However, this course has helped me see that there is much more in understanding what music does. How it creates emotions, how the form and harmonic analysis plays such an important role, and shapes the voice of the composer.
17.	With each class that was taught, I felt a deeper understanding of the music being shown to us and the music I was playing. This, I found, allowed it to be easier to understand why my music was following a certain contour and harmonic structure.

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