Composing Educational Music for Winds in Real Time

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Abstract

This article outlines findings on the analysis and interpretation of reflective journals undertaken by professional composers during the composition of new wind music for students enrolled in school music programs. The findings will be of interest to composers, publishers and music educators engaged in the creation, dissemination and performance, respectively, of contemporary wind music for educational purposes.

Key Words: educational music, music composition, generative processes of music

Introduction

MacDonald and Miell (2000) suggest that music, and student interest in music is largely influenced and subject to social influences, in particular the relationships students have with different social environments including family, school, and peers; and that these influences subsequently impact an individual's sense of identity and musical development. There is a "key impact which peer groups, the family, the relationships between teacher and pupil and between pupils themselves, have upon a child's interest in and knowledge about music and indeed on their developing personal identity as 'musical'" (p. 58). Unfortunately, much of the school repertoire is of very poor quality. It is an issue that has been raised over the past three decades by band directors (Battisti, 1995a, 1995b, 2002; Begian, 1990; Budiansky 2005a, 2005b; Hughes, 1990; Williamson, 1981), composers (Colgrass, 2004; McBrien, 2002), professional musicians (Byrne, 2001), and music education researchers (Andrews, 2009; Britton, 1991; Greiner, 2002; Ostling, 1978). Budiansky and Foley (2005) summarize the situation succinctly when they state:

> Much of the music composed specifically for school band is formulaic, emotionally superficial, monotonously alike, dull, and didactic; that it fails to inspire students; and that by being removed from any genuine living musical tradition, classical or popular, it fails to provide students with a true musical education or the basis for further independent exploration of music, either a performer or listener. (p. 17)

Across Canada, Canadian music is not a significant component of the school (Shand & Bartel, 1998) and post-secondary music curricula (Andrews & Carruthers, 2004; Carruthers, 2000). Instead American film music and Western-European transcriptions for concert band and vocal ensembles dominate the curriculum (Bartel, Dolloff, & Shand, 1999; Varahidis, 2012). Moreover, composers are not trained to compose educational music (Andrews & Carruthers, 2004; Carruthers, 2000).

Their education in conservatories, colleges and universities focuses on increasing levels of complexity in the Western-European tradition rather music that is accessible to the public, to amateurs, and to young musicians (Hatrik, 2002; Terauds, 2011). "If Canada's rich musical heritage is to be preserved for future generations, Canadian music must be integral to the education of future musicians and music teachers, and universities must take a leading role in promoting Canadian music" (Andrews, 2005, p. 102).

The Canadian Music Centre (CMC) is a not-for-profit organization of professional composers that serves to archive and promote the works of Canadian composers. In addition, the organization also has an educational mandate. Under the auspices of the *John Adaskin Project*, guidelists of Canadian music appropriate for young musicians were produced (e.g., MacInnes, 1991; Shand, 1993; Stubley, 1990; Walter, 1994). In *Creating Music in the Classroom* composers created new music for schools (Washburn, 1960), the *Composter Project* disseminated teaching resources (CMC, 1992), and in the *Composer in Electronic Residence,* student compositions were critiqued by CMC composers (Barwin, 1998).

Related Research

Because of the lack of Canadian music for educational purposes, several educational commissions were initiated for CMC composers. In 2000, the Canada Council and provincial arts councils commissioned 98 new educational works to celebrate the millennium in a project entitled *New Music for Young Musicians* (NMFYM). In an evaluation study, it was found that composers employ specific compositional techniques to reinforce different types of music learning, and prior experiences teaching young musicians are important for creating educational music appropriate for them (Andrews, 2004). Blending atonal and tonal idioms challenges students and retains their attention, and the adoption of a flexible form allows composers to adapt more easily to students' needs (Andrews, 2007). Rehearsing new pieces in classrooms enables composers to effectively assess students' technical proficiency and ensure an appropriate interpretation of a new work (Andrews, 2006). Compositional techniques, such as equality of parts to maintain interest and short pulsating rhythms to refine motor responses, can impact positively on students' musical skill development (Andrews, 2009).

Commencing in 2005, the Norman Burgess Memorial Fund[1] of the CMC built on the work of the *NMFYM* and commissioned three new string works for educational purposes over three years (CMC, 2004). Subsequently, the Ontario Arts Foundation with funds from the Ontario Ministry of Education and Ministry of Culture in collaboration with the Norman Burgess Memorial Fund commissioned eight new string works for the 2007-2008 and 2009-2010 school years (Palmer, 2010; Van Eyk, 2010). In alternate years, the Ottawa Catholic School Board commissioned eight new wind works; that is, 2008-2009 and 2010-2011 (Andrews, 2012). The research component, entitled New Sounds of Learning: Composing for Young Musicians (a.k.a., New Sounds of Learning Project, was designed to examine the parameters of educational music with support by the Social Sciences and Humanities Research Council (SSHRC).[2] For those composing string works, the key factors for composing educational music outlined in background questionnaires were the students' abilities, the pedagogical dimension, and musical quality: they pursed an educational commission to raise students' awareness of contemporary musical techniques and to create new music in areas where they is limited repertoire (Andrews, 2013). The key factors for those composing for winds were technical proficiency, musical challenge, and enjoyment: they emphasized the importance of avoiding undue complexity and creating music appropriate to the students' needs (Andrews & Giesbrecht, 2013). The research team also discovered that there is limited agreement by publishers on the levels of difficulty of instrumental ensemble pieces that are commercially available. Consequently, a Music Complexity Chart (MC²) was developed to identify the characteristics of each level and of the grades within them (Appendix I) (Andrews, 2011).

In reflective journals, composers of the string works outlined how they modified their compositions to accommodate the students' technical abilities, learned to play repertoire on the students' instruments, organized the compositions using simple forms (e.g., binary, ternary and variation), and reframed the relationship of pedagogy and music composition by integrating into their compositions improvisation, variable interpretation, modular parts, and singing and playing simultaneously (Andrews & Giesbrecht, 2014).

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[11] Norman Burgess was a former Chair of the Ontario Regional Council of the CMC. On this passing, the estate donated funds to the CMC to commission and premiere new string works for young musicians.
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This article focuses on the findings of reflective journals which were undertaken by composers commissioned to compose new wind works for young musicians in the New Sounds of Learning Project.
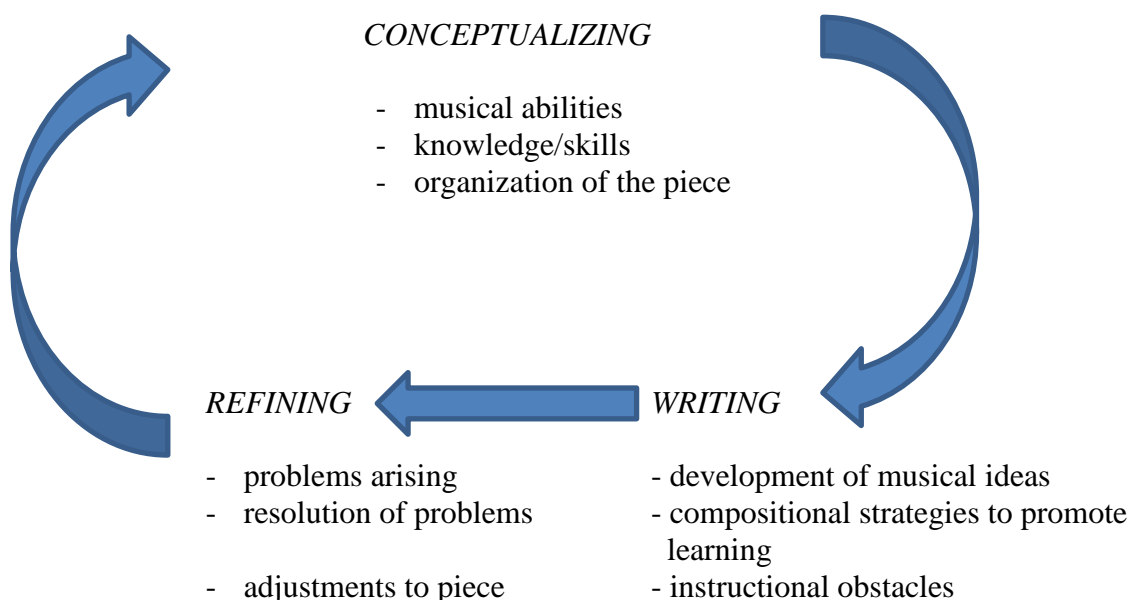
Research Process

Integrated Inquiry was employed throughout the New Sounds of Learning Project. This research method solicits multiple perspectives by combining data from the same protocol in different time periods or different groups of participants, or alternately the use of different research protocols, qualitative and/or quantitative (Andrews, 2008). The theoretical framework for the New Sounds of Learning Project comprised the four dimensions of creativity; that is, *place, process, product and person* (Amabile & Tighe, 1993; Woodman & Schoenfeldt, 1989;) with a different protocol for each of them – questionnaire, reflective journal, compositional analysis, and interview, respectively.

Eight Canadian composers completed reflective journals about their experiences composing wind pieces for young musicians: four in 2008-2009 and four more in 2010-2011. Composers were requested to undertake a reflective journal focusing on the three stages of the composition process: *conceptualizing*, *writing*, and *refining* (refer Figure I). In each of the three categories guiding questions were provided. Due to the diversity of the journals, themes were created for each of the stages for data analysis. Compositions were written for a variety of ensembles (e.g. concert band and jazz ensembles) that were found in the participating schools.

The goal of the reflective journals was to understand and gain insight into the compositional processes and strategies used by composers as they composed music for high school level students. Kennedy (1999) suggests that acquiring information of "composers at work is one way to glean more understanding of the compositional process and a fuller understanding of the compositional process will assist music teachers in facilitating composition activities in their classrooms" (p. 157). Based on the literature that the compositional process occurs in stages (Christiansen, 1993; Freed-Garrod, 1999; Roozendaal, 1993; Sloboda, 1985; Wallas, 1926), three broad categories were created to organize the reflective journals: conceptualization, writing, and refining with guiding questions to focus the responses (refer to Appendix II).

Figure 1: Compositional Process

CONCEPTUALIZING

- musical abilities
- knowledge/skills
- organization of the piece

REFINING

- problems arising
- resolution of problems
- adjustments to piece

WRITING

- development of musical ideas
- compositional strategies to promote learning
- instructional obstacles

Conceptualization

Initially, the composers visited the schools to acquire a sense of the ensemble for which they would be composing. Sub-categories of the *conceptualization* component of the reflective journal included knowledge-skill level, level of difficulty, and organization of the piece.

Knowledge/skills

The composers expressed contrasting views of the levels of knowledge and skill of the ensembles for which they were composing. Some were concerned about the limited skill indicating "this is a very new ensemble with no established traditions or history, and very little experience playing in an ensemble." Other were impressed with the students' abilities; for example "I also notice a strong sense of rhythm and good sight reading skills, meaning that I could use shifting meters without any problem."

Composers indicated that it was essential to meet with the students and their teacher to hear the ensemble at its best (i.e., not sight reading new material) and establish an appropriate compositional strategy for creating a new educational work. One composer attended a rehearsal to determine the knowledge and skills that were being developed by the teacher and then included them within his piece. This strategy reinforced "the [instructor's] teaching by creating a piece that the students are comfortable with and hopefully enjoy playing, while at the same time, introducing new musical concepts and challenges."

Generally the composers agreed that it was important to create educational music that challenges young musicians. To do so, however, requires continuous practicing to develop musicianship. Unfortunately, as they discovered, this is not always a priority with music students. This aspect of the project frustrated the composers because they believed that "anyone can to play fast or high but it is musical sensitivity that allows for a higher level of expression."

Level of Difficulty

All of the wind composers had previous experience composing for young musicians. Employing the Music Complexity Chart (MC²) as a guide (Andrews, 2011), they composed pieces at the Easy (grade 2) and Medium (grade 3) levels of difficulty (refer to Appendix I). Correctly assessing the technical limitations of students and the level of difficulty appropriate to the ensemble were crucial to establishing the musical foundation of the new composition. Their greatest challenge was their discovery of the varied abilities within the ensembles. As one of the composers commented: "The level of the players is mixed. The woodwinds (first chairs) are good, the brass sections with the exception of the tuba are weak to fair […] Two alto saxes, 1st chair flutes and clarinets, tuba and bass clarinet are very good." This situation reflects the smaller enrolments in instrumental music[3] and the growing practice of split grade classes and concert bands which include students from several grades rather the traditional junior (grades 7-8), intermediate (grades 9-10), and senior (grades 11-12) ensembles.

Organization

The large class sizes, the lack of certain instruments, and the uneven number of students per instrument represented significant limitations encountered in the organization of the new compositions. "These limitations will be challenging as it will be difficult to achieve a full sound" a composer noted. Some of the composers received requests from the teachers to shape their compositions to address the skill sets of their students, especially those with advanced abilities. For example, a composer was asked by a teacher to include a "lyrical section to include solos for flute and alto saxophone."

Composers commented on the importance of creating a piece that was musically appealing and provided the students with a sense of accomplishment. A composer explained the importance of finding a "melodic hook that will catch [students'] interest and, because it will lie well on their instrument, provide them with a sense of mastery."

Writing

For this part of the reflective journal, composers were asked to reflect and comment on their process of finding and developing musical ideas, compositional strategies, and the obstacles that they encountered during their writing process.

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[3] Music enrolments generally have not declined but rather the programs have diversified to include guitar, jazz band, swing choir, keyboard, world music, and computer music. Instrumental music, the mainstay of music programs, however, has declined in numbers, thereby resulting in split grades and multi-grade ensembles.

Musical Ideas

Composers indicated a range of approaches to acquiring musical ideas that were developed into compositions. These included:

- Idea germination where a musical motive or phrase was constantly re-worked by the composer.
- A "eureka" moment where a subconscious musical idea became conscious.
- Listening to a variety of musical styles and "borrowing" musical motives or phrases.
- Employing a previous melody as the basis for a new composition.
- Using a school's namesake and story as the foundation of the composition.

Musical ideas were developed that were playable, enjoyable and catchy. Diatonic material, familiar forms (e.g., 12-bar blues), and rock rhythms were utilized in the compositions. At the same time, the composers emphasized the importance of challenging the students and developing their musical skills. For example, one composer stated that "the idea of chromatics came to mind, because young players do have a challenge developing ease when there are chromatics in the part."

Compositional Strategies

The composers predominantly used the piano to generate musical ideas for their compositions. They would improvise, experiment, and develop motives, phrases and harmonies at the keyboard. Lack of technique was not necessarily a drawback as one of the composers commented: Often times … my fingers will hit a "wrong" note. This has sometimes been the source of my best ideas as it leads me to ideas or harmonies that I wouldn't have normally considered." One composer wrote that he worked from a condensed score and then developed it into a full score for all the instruments.

Overall, the composers employed a variety of compositional strategies. These include:

- A melodic 'hook' to maintain interest.
- Repetition to practice difficult rhythmic figures.
- Dynamic contrasts to create excitement.
- Varied articulations to develop tonguing skills.
- Unison to focus on intonation.
- Doubling to build the confidence of weaker players.
- Solo opportunities across all parts to challenge players.
- Irregular time signatures (e.g., 7/4) to develop meter skills.
- Naming the piece to create ownership.

Obstacles

The two major obstacles encountered by the composers were the nature of the ensembles for whom they composed and the technical skills of the students with whom they worked. The instrumentation of the ensembles was often inconsistent with that employed in concert bands and jazz ensembles with many instruments to one part or alternately, missing instruments altogether. One composer explained the situation quite succinctly: "some students only study music for one semester and then move on to another discipline. Therefore the instrumentation of group is always changing." And another commented about the effect of the incomplete instrumentation on the compositional process: "it will be difficult to achieve a full sound. There are many colors and effects that I will not have available to me." The students' diverse range of skills also represented a serious obstacle, especially the reduced range and reading ability of many of the students. This situation limited the composers' artistic ambitions. They were also frustrated in some cases by the lack of student engagement and willingness to practice which impacted on their ability to perform the music. As one composer expressing angst stated: "No one player seem[ed] to just be there."

Refining

Upon the completion of their works, the composers received feedback from the student performers and were asked to reflect on the problems that they encountered, the adjustments that they needed to make, and any outstanding thoughts that they had about their experience.

Problems Encountered

The major problems encountered by the composers during the project were the students' lack of engagement with the new material and their technical limitations. The composers were perplexed by the students' lack of commitment to learning new material. They experienced attendance problems, an unwillingness to practice outside of class time, and a limited focus on learning. A composer noted: "The attention-span was about 35 minutes, then I was fighting an up-hill battle with the band." Their efforts to challenge the students was an eye-opener. One composer commented: "I forget how fragile I was as a teenager and it did not take much to set my whole ego structure on a downward spin"; and another asked: "How do we interest young musicians without preaching to them?"

The technical challenges that the composers encountered were consistent with their previous experiences composing for young musicians and amateurs. Once composer described his experience in the project by stating: "The performance problems I encountered were ones that I expected: reading figures incorrectly, sections of the band not listening to each other and losing the time, tuning and balance issues." Other issues that emerged were the limited ranges, the lack of dynamics, and poor intonation.

Adjustments

Adjustments to the compositions occurred during the project and after the premiere. These primarily involved technical changes both to simplify passages to ensure playability or to increase difficulty to create challenges. For example, a composer "had to adjust the trumpet notes at the end of the piece (down one octave) so that the students could play them," and another added "a trill in one bar for the flutes to feast on." Other technical aspects were worked on through demonstration, continuous practice, and feedback from the composers and teachers. For example, a composer demonstrated how increasing the air velocity could alter the dynamics in trumpet playing, and a teacher demonstrated the use of mallets and the different effects possible.

Composers and teachers also highlighted the importance of the student-teacher-composer dynamic that occurred throughout the project. All parties learned from each other and contributed towards the educational viability of the compositions. Teacher feedback assisted the composers to refine their pieces and ensure playability. Student enthusiasm provided energy to the project that motivated composers to create compositions that were challenging, interesting, and of educative value. One participant best summarized the relationship of composers to students when he stated: "It has been a delight to meet and work with the director and students of [the school]. I believe that that they have had a positive experience so far and I am looking forward to a successful performance of the commissioned piece."

Discussion

Music composition can be viewed as a problem-solving process in which composers must negotiate multiple variables both internal and external (Collins, 2005). For the composers in this study, the challenges were how to balance the demands of the internal (e.g., wanting to meet the composer's own expectations) and the external (e.g., having to work with the limitations and expectations of the students). As for compositional styles, Folkestad, Hargreaves, and Lindstrom (1998) stated that there were two fundamental styles: horizontal, which is more holistic in its approach (e.g., melody, harmony, and structure are composed as one with details and refinements undertaken afterwards); and vertical composition which is achieved through moving through smaller sections or chunks of material - each chunk is completed prior to moving on to the next one. Andrews (2009) found that concrete compositional strategies, such as the use of repetition, short melodic units, pulsating rhythms, contrasting chords, and equality of parts, all contribute to fostering students' learning and interest in educational music. By using such techniques, composers were able to compose pieces that both satisfied the students and themselves. As a final stage of the composition process, Collins (2005) found that composers engaged in reflexive practices as the pieces neared completion; that is, they constantly refined and re-worked material. Swanwick and Franca (1999) noted that there are psychological differences between reflecting on one's own composition and feedback from others (e.g., teachers) which is just as critical, if not more so, than one's own reflexive practice.

In order to engage in the creative process, an individual must have a strong foundational knowledge of theory and practice opportunities to develop their mastery in that discipline. As mentioned by several composers, deliberate practice is important for students to undertake as it challenges them to improve on their technical ability.

According to Westerlund (2006), "experts are found in all kinds of environments but only some environments are supportive of the process of expertise" (p. 121). Similarly, Bereiter and Scardamalia (1993) stated that expertise was best fostered in what they termed "knowledge-building communities" where learning occurs in groups and is characteristically peer-directed. In order to develop musical expertise, an environment must be established that fosters and promotes frequent opportunity to practice skills (Sloboda, 1991). According to these authors, the definition of "musical expert" is different for each individual musician. It depends on how the musicians define and what they consider to be "deliberate practice."

Chaffin, Imreh, and Crawford (2002) state that practice is systematic and comprises four distinct stages: (1) understanding the overall sense of the piece (the "big picture"); (2) engaging in technical practice to master the piece; (3) attempting to perform; and (4) maintaining the piece for future use (e.g., concert performances or recordings). Bigand and Poulin-Charronnat (2006) stated that "training leads experts to develop skills, processing strategies and declarative knowledge that are not found in novices" (p. 101). In addition, "studying the influence of intensive musical training on the perception of music contributes to highlight the nature of human capacity for processing and understanding music" (p. 101). Lack of student practice of their new pieces frustrated the composers in the study. They knew all too well that mastery develops the students' self-confidence and the assuredness to play the compositions well and proficiently.

Swanwick and Franca (1999) comment that when composing educational music that "pieces should not always be so easy that they do not offer challenges for further development, but also not so difficult that they are beyond the students' capabilities" (p. 16). For the composers establishing an appropriate level of difficulty was challenging because of the varying skill levels of the students within the music classes.

Folkestad (2004) notes that "the creative music making takes place in a process of interaction between the participants' musical experience and competence, their cultural practice, the tools, the instruments, and the instructions […] in the creative situation" (p. 88). Just as there are several definitions of creativity and its processes, research about the compositional processes of music indicates that there are also multiple views of how music is composed. Wallas (1926) described the process of composition in four stages: preparation, incubation, illumination, and verification. Sloboda (1985) on the other hand, posits that composing occurs in two stages: inspiration and execution. According to Wiggins (2007), however, there is some agreement that the first step in composition is to generate or invent musical ideas. Folkestad (2004) agrees that composers often found composing from "an empty space" or "with a blank paper" most difficult and that "some kind of definition of the framework of the composition seems to be a necessity for the process to start in the first place" (p. 88). This held true for composers in the study who stated that musical ideas and inspiration are necessary: they can either happen consciously or unconsciously and can be drawn from any environment or situation.

Additionally, Wiggins (2007) notes that as composers write their pieces, they all "hold some kind of holistic conception or vision of the final product" (p. 460). As a result, this influences the preconception and thus influences the writing process by establishing a context for the music. For example, one of the composers chose to use pre-existing material as the foundation and framework for his composition (i.e., the Gregorian Kyrie melody from Mass of the Angels).

"It is essential that music composed for young musicians exhibits the highest level of musical quality" (Andrews, 2004, p. 12). This is reflective of what the composers experienced: they enjoyed the experience and were ultimately able to compose music that was both challenging but accessible to students. Their openness to collaborate with the music teacher and receive feedback made this possible. The large class sizes, the lack of certain instruments, and the uneven number of students per instrument represented significant limitations encountered in the organization of the new compositions

Concluding Comments

Composers indicated that it was essential to meet with the students and their teacher to hear the ensemble at its best (i.e., not sight reading new material) and establish an appropriate compositional strategy for creating a new educational work. Generally the composers agreed that it was important to create educational music that challenges young musicians. To do so, however, requires continuous practicing to develop musicianship. Unfortunately, as they discovered, this is not always a priority with music students. Correctly assessing the technical limitations of students and the level of difficulty appropriate to the ensemble were crucial to establishing the musical foundation of the new composition.

Composers indicated a range of approaches to acquiring musical ideas that were developed into compositions. These included: idea germination; an "eureka" moment; "borrowing" musical motives or phrases; and employing a previous melody or using a school's namesake and story as the foundation of a composition.

The composers predominantly used the piano to generate musical ideas for their compositions. They would improvise, experiment, and develop motives, phrases and harmonies at the keyboard. Overall, the composers employed a variety of compositional strategies. These included: repetition to practice difficult rhythmic figures; dynamic contrasts to create excitement; varied articulations to develop tonguing skills; unison to focus on intonation; doubling to build the confidence of weaker players; solo opportunities across all parts to challenge players; irregular time signatures (e.g., 7/4) to develop meter skills; and naming the piece to create ownership.

The major challenges encountered by the composers were the nature of the ensembles for whom they composed, the technical skills of the students with whom they worked, and the lack of student engagement. The instrumentation of the ensembles was often inconsistent with that employed in concert bands and jazz ensembles with many instruments to one part or alternately, missing instruments altogether. With multi-grade classes there was a wide range of musical abilities and often a lack of student engagement. Adjustments to the compositions occurred during the project and after the premiere. These primarily involved technical changes both to simplify passages to ensure playability or to increase difficulty to create challenges. Composers and teachers also highlighted the importance of the student-teacher-composer dynamic that occurred throughout the project. All parties learned from each other and contributed towards the educational viability of the compositions. Teacher feedback assisted the composers to refine their pieces and ensure playability. Student enthusiasm provided energy to the project that motivated composers to create compositions that were challenging, interesting, and of educative value.

Acknowledgements

References

Amabile, T. M., & Tighe, E. (1993). Questions of creativity. In J. Brockman (Ed.), *Creativity* (pp. 7-27). New York, NY: Simon & Schuster.

Andrews, B. W. (2004). Conceptualizing new music for young musicians. In L. Bartel (Ed.), *Questioning the music education paradigm* (pp. 146-160). Research to Practice series, Vol. 2. Waterloo, ON: Canadian Music Educators Association.

Andrews, B. W. (2005). Bridge over troubled waters: Policy development for Canadian music in higher education. *Music Education Research*, *7* (1), 101–118.

Andrews, B. W. (2006). How composers compose new music for young musicians: Refining the process. In M. Mans & B. H. Leung (Eds.), *Music in schools for all children: From research to effective practice* (pp. 185-193). Proceedings of the 14th Music in Schools and Teacher Education Commission (MISTEC), International Society for Music Education. Granada, Spain: University of Granada Press.

Andrews, B. W. (2007). Composing new music for young musicians: Emerging questions. *The Recorder, 50* (1), 16-21.

Andrews, B. W. (2008). Integrated inquiry: Transforming multiple research perspectives. In S. Kouritzin, N. Piquemal, & R. Norman (Eds.), *Qualitative research: Challenging the orthodoxies* (pp. 169-181). New York, NY: Taylor and Francis.

Andrews, B. W. (2009). Secrets of the pied piper: Strategies for composing music for young musicians. *Research Perspectives in Music Education*, *13*, 6–14.

Andrews, B. W. (2011). The Music Complexity Chart (MC2): Identifying the characteristics of levels of difficulty in educational music. In B. Bolden & M. Kennedy (Eds.), Widening the boundaries of music education (pp. 109–135). Victoria, BC: University of Victoria.

Andrews, B. W. (2012). New Sounds of Learning: Investigating the parameters of educational music. *International Journal of Arts and Humanities, 1* (6), 118-224.

Andrews, B. W. (2013). Composing educational music for strings in a Canadian context: Composer perspectives. *Canadian Music Educator, 55* (5), 10-17.

Andrews, B. W., & Carruthers. (2004). Needle in a haystack: Canadian music in post-secondary curricula. In P. M. Shand (Ed.), *Music education entering the 21ˢᵗ century* (pp. 75-83). Proceedings of the 13ᵗʰ Music in Schools and Teacher Education (MISTEC) Seminar, Malmo, Sweden. Nedlands, Western Australia: International Society for Music Education.

Andrews, B. W., & Giesbrecht, M. (2013). Composer perspectives on composing educational music for winds. *International Journal of Arts and Sciences, 6* (2), 455-468.

Andrews, B. W., & Giesbrecht, M. (2014). Composing educational music for strings in real time. *International Journal of Contemporary Composition, 10,* 24-38.

Bartel, L. R., Dolloff, L. A., & Shand, P. M. (1999). Canadian content in school music curricula: A research update. *Canadian Journal of Research in Music Education, 40* (4), 13-20.

Barwin, G. (1998). Composers in electronic residence. *Canadian Music Educator, 40* (1), 23-25.

Battisti, F. L. (1995a). *The twentieth century American wind band/ensemble: history, development and literature*. Ft. Lauderdale, FL: Meredith Music.

Battisti, F. L. (1995b). Growing excellence in band literature. *The Instrumentalist*, February, 16-20.

Battisti, F. L. (2002). *The winds of change: The evolution of the contemporary American wind band/ensemble and its conductor.* Galesville, MD: Meredith Music.

Begian, H. (1990). The conductor's responsibilities. *The Instrumentalist,* April, 14-16.

Bereiter, C., & Scardamalia, M. (1993). *Surpassing ourselves*. Chicago, IL: Open Court Press.

Bigand, E., & Poulin-Charronnat, B. (2006). Are we "experienced listeners?" A review of the musical capacities that do not depend on formal musical training. *Cognition*, *100*(1), 100-130.

Brien, B. (2002). Influenced by Bach and Palestrina, Del Borgo prefers absolute music. *The Instrumentalist*, January, 32-38.

Britton, A. P. (1991). American education. Is it better than we think? In R. Colwell (Ed.), *Basic concepts in music education II* (pp. 175-188). Niwot, CL: University Press of Colorado.

Budiansky, S. (2005a). The kids play great. But that music … *Washington Post*, January 30, B3.

Budiansky, S. (2005b). The school music controversy. www.budiansky.com/music.html.

Budiansky, S., & Foley, T. (2005). The quality of repertoire in school music programs. Literature review, analysis and discussion. *Journal of the World Association for Symphonic Bands and Ensembles, 12,* 17-39.

Byrne, F. (2001). The unanswered question. *WASBE Journal, 7*, 7-14.

Canadian Music Centre. (1992). *ComPoster kit: Music education package*. Toronto, ON: CMC.

Canadian Music Centre (2004). CMC Ontario announces Norman Burgess Memorial Fund. *Notations, 11* (1), 17.

Carruthers, G. A. (2000). A status report on music education in Canada. In S. T. Maloney (Ed.), *Musicanada 2000: A celebration of Canadian composers* (pp. 86-95). Toronto, ON: Canadian Music Centre.

Chaffin, R., Imreh, G., & Crawford, M. E. (2002). *Practicing perfection: Memory and piano performance* (p. xvi303). Lawrence Erlbaum.

Christiansen, C. B. (1993). Music composition, invented notation, and reflection in a fourth grade music classroom. In *Symposium on Research in General Music*. Tucson, AZ.

Colgrass, M. (2004). Composers and children: A new creative force? *Music Educators Journal*, *9*, 19–23.

Collins, D. (2005). A synthesis process model of creative thinking in music composition. *Psychology of Music*, *33*(2), 193–216.

Folkestad, G. (2004). A meta-analytic approach to qualitative studies in music education: A new model applied to creativity and composition. *Bulletin of the Council for Research in Music Education*, *161/162*, 83–90. Retrieved from http://www.jstor.org/stable/40319241

Folkestad, G., Hargreaves, D. J., & Lindström, B. (1998). Compositional strategies in computer-based music-making. *British Journal of Music Education*, *15*, 83-98.

Freed-Garrod, J. (1999). Assessment in the arts: Elementary-aged students as qualitative assessors of their own and peers' musical compositions. *Bulletin of the Council for Research in Music Education, 139,* 50–63.

Grenier, A. S. (2002). A comparative study: Band literature selected for performance at the Iowa High School Association's large group festival with selected state required literature lists and performance texts. University of Northern Iowa Music Department research paper.

Hatrik, J. (2002). Priestor medzi komposiciou a hudobnou vychovou. [The space between composition and music education.] *Slovenská hudba: Revue pre hudobnú kultú, 28* (2), 189-199.

Hughes, B. (1990). Survey of band repertoire. *The Instrumentalist,* November, 61-65.

Kennedy, M. A. (1999). Where does the music come from? A comparison case-study of the compositional processes of a high school and a collegiate composer. British Journal of Music Education, 16(2), 157–177.MacDonald, R. A. R., & Miell, D. (2000). Creativity and music education: The impact of social variables. *International Journal of Music Education*, *36*(1), 58–68. doi:10.1177/025576140003600107

MacDonald, R. A. R., & Miell, D. (2000). Creativity and music education: The impact of social variables. International Journal of Music Education, 36(1), 58–68. doi:10.1177/025576140003600107.

MacInnis, P. (1991). *Guidelist of Canadian solo free bass accordion music suitable for student performers*. Toronto, ON: Canadian Music Centre.

Ostling, A. (1978). An evaluation of wind band literature according to specific criteria of artistic merit. PHD dissertation, University of Iowa.

Palmer, J. (2010). Ping! A success for Norman Burgess Fund. *Notations, 15* (1), 6.

Roozendaal, R. (1993). Psychological analysis of musical composition. *Contemporary Music Review, 9* (1/2), 311–324.

Shand, P.M. (1993). *A guide to published Canadian violin music suitable for student performers*. Toronto, ON: Canadian Music Centre.

Shand, P. M., & Bartel, L. R. (1998). Canadian content in music curriculum: Policy and practice. In B.A. Roberts (Ed.), *Connect, combine, communicate* (pp. 89-107). Sydney, NS: University College of Cape Breton.

Sloboda, J. A. (1985). *The musical mind: The cognitive psychology of music*. Oxford, England: Clarendon Press.

Sloboda, J. A. (1991). Musical expertise. In K. A. Ericsson & J. Smith (Eds), *Toward a General Theory of Expertise: Prospects and Limits*. Cambridge, UK: Cambridge University Press.

Stubley, E. (1990). *A guide to solo French horn music by Canadian composers.* Toronto, ON: Canadian Music Centre.

Swanwick, K., & Franca, C. C. (1999). Composing, performing and audience-listening as indicators of musical understanding. *British Journal of Music Education*, *16* (1), 5–19.

Terauds, J. (2011). No composer left behind? In J. Van Eyck (Ed.), The current state of music commissioning. *Notations, 17* (1), 1, 16-17.

Van Eyk, J. (2010). Big year for Norman Burgess Fund. *Notations, 16* (1), 5.

Varahidis, L. (2012). Examining the prevalence of American repertoire in Ontario band programs. *The Recorder, 50* (1), 14-15.

Wallas, G. (1926). *The art of thought*. New York, NY: Harcourt, Brace and Company.

Walter, C. (1994). *A guide to unpublished Canadian jazz ensemble music suitable for student performers*. Toronto, ON: Canadian Music Centre.

Washburn, R. (1960). The Young Composer Project in Elkhart. *Music Educators Journal, 47* (1), 108-109.

Westerlund, H. (2006). Garage rock bands: A future model for developing musical expertise? International Journal of Music Education, 24, 119-124.

Williamson, J. E. (1981). Poor educational music: Who's at fault? *The Instrumentalist,* February, 109.

Wiggins, J. (2007). Compositional process in music. In L. Bresler (Ed.), *International Handbook of Research in Arts Education* (pp. 453–470). New York, NY: Springer.

Woodman, R. W., & Schoenfeldt, L. F. (1989). Individual differences in creativity: An interactionist perspective. In J.A. Glover, R. R. Ronning, & C. R. Reynolds (Eds.), *Handbook of creativity* (pp. 77-91). New York, NY: Plenum Press.

Appendix I: MUSIC COMPLEXITY CHART (MC²)

This chart assists composers assign grades, teachers evaluate repertoire, and publishers promote educational music effectively. Each grade subsumes all the characteristics of the previous one.

ELEMENTS	Easy Level (Grade 1 < 2)	Medium Level (Grade 3 < 4)	Advanced Level (Grade 5 < 6)
Overall Organization *Instrumentation*	1 part per instrument (e.g., alto sax, French horn) or 2 parts (e.g., 1st and 2nd trumpets, 1st and 2nd violins); basic percussion; condensed score; opt. tympani	2 and 3 parts (e.g., 1st and 2nd Fr. horns, 1st, 2nd and 3rd clarinets); more instruments (e.g., piccolo, bassoon, alto/bass clarinet, bari sax, aux. percussion)	4 French horn parts; division of parts (e.g., divisi 1st flute); specialized instruments (e.g., contra bass clarinet, flugelhorn, English horn, cornet)
Range	Initially within octave; gradually up to the 12th	Upwards of 2 octaves	Complete range of the instruments
Orchestration	Doubling of parts (e.g., tenor sax/trombone, oboe/flute, cello/bass)	Brass, woodwind, strings, percussion instrument groupings	Sectional divisions (e.g., clarinet section, French horn section)
Rhythm *Note values*	Whole, half, quarter, eighth and dotted notes; some sixteenths	Sixteenth and thirty-second notes; triplets; dotted sixteenths	Full range of notes and dotted notes
Rhythmic patterns	Combinations and syncopations of note values above in melody and harmony	Combinations and syncopation of notes in melody, counter-melody and harmony	Polyrhythmic patterns
Meters	2/4, 3/4, 4/4, 6/8, ¢	5/8, 7/8, 5/4, 2/2, 3/2	Use of polymeters
Melody *Melodic structure*	Brief Motives and short phrases; limited variation/development	Longer motives and phrases; variation and development	Extended development and variation of motives and phrases
Melodic direction	Tonal/modal melody	Chromatic/whole-tone	Atonal/serial melody
Intervals	Step-wise movement, leaps to P 5th up/down	Wider intervals (P 6th- to P 12th)	Augmented and diminished intervals

Harmony			
Key signatures	Winds: 1 sharp; up to 3 flats Strings: 1 flat; up to 3 sharps.	Upwards of 5 sharps and 5 flats	Upwards of 6 sharps and 6 flats; use of accidentals in place of key signatures
Keys	C+, G+, D+, A+; F+,Bb+, Eb+; A-, E-, B-, F#-; D-, G-, C-	E+, B+; Ab+, Db+; C#-, G#-, F-, Bb-	Enharmonic keys: F#+/Gb+; C#+/Db+; D#-/Eb-; A#-/Bb-
Harmonic organization	Tonal (major/minor) and modal harmonies; transposition to related keys (e.g., F+ to C+ or D- to B-)	Transposition to unrelated key; chromatic harmonies; unrelated progressions	Atonal, twelve-tone, polytonal progressions; aleatoric and polystylistic writing
Form ***Types***	Binary, ternary, rondo, tone poem, variation, overture	Sonata, polyphonic forms (e.g., fugue)	Combination forms (e.g., sonata-rondo, rondo-variation)
Themes	Theme or variation of theme in separate sections	Multiple themes or development of multiple themes within sections	Multiple themes and/or development of themes and/or variation of themes within sections
Duration	1 – 2 movements; upwards of 4 minutes	1 – 3 movements, upwards of 8 minutes	1 – 4 movements; upwards of 12 minutes
Expression ***Dynamics***	pp, p, mp, mf, f, ff crescendo, diminuendo	sfp, sfz; changes in dynamics	Full range of gradations (e.g., ppp to fff); rapid dynamic changes; sustained crescendo/diminuendo
Articulations	Detached, staccato, legato, and accents	Sostenuto, variety of accents/articulations, contrasting passages	Full range of articulations, variety within sections
Phrasing	Phrasing within bars and upwards of 2 bars	Moderate phrasing (up to 4 bars in length)	Extended phrasing (up to 4 bars and more)

N. B. A higher grade is assigned when most of the characteristics of the musical elements are more complex within a level. When a few characteristics are more complex, then a .5 indicator may be warranted. Outliers may be ignored if minor.
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Appendix II: New Sounds of Learning Reflective Journal

Name: Ensemble:

Composition Title: School Grade Level(s):

Level of Difficulty of Composition:

The reflective journal focuses on the process of composing new music for young musicians on solving instructional problems. You are asked to notate your thoughts and feelings throughout three stages of this process; that is, *conceptualizing, writing* and *refining* a new musical work. The journal may be undertaken during each stage or at the end of a particular stage.

Please provide a date for each entry, and include any comments and suggestions provided by the assigned teacher. The guiding questions are intended to assist you but should not limit the range of your responses.

Conceptualizing

Guiding Questions:

What is the overall level of musical ability? What are the strengths and limitations? (Refer to MC² provided.)
What musical skills and knowledge are currently being developed? How do I reinforce this learning?
How do I organize my composition to build on current musical abilities and extend them?

Writing

Where do I obtain the musical ideas? How do I develop them?
What compositional strategies do I employ to reinforce learning?
What compositional obstacles am I encountering? How do I overcome them?

Refining

What performance problems occur during the rehearsals?
What adjustments do I make to resolve these problems?
What other refinements do I undertake to improve the composition?

Thank you for your contribution to the New Sounds of Learning Project.