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ADVANCES IN GLOBAL EDUCATION AND RESEARCH

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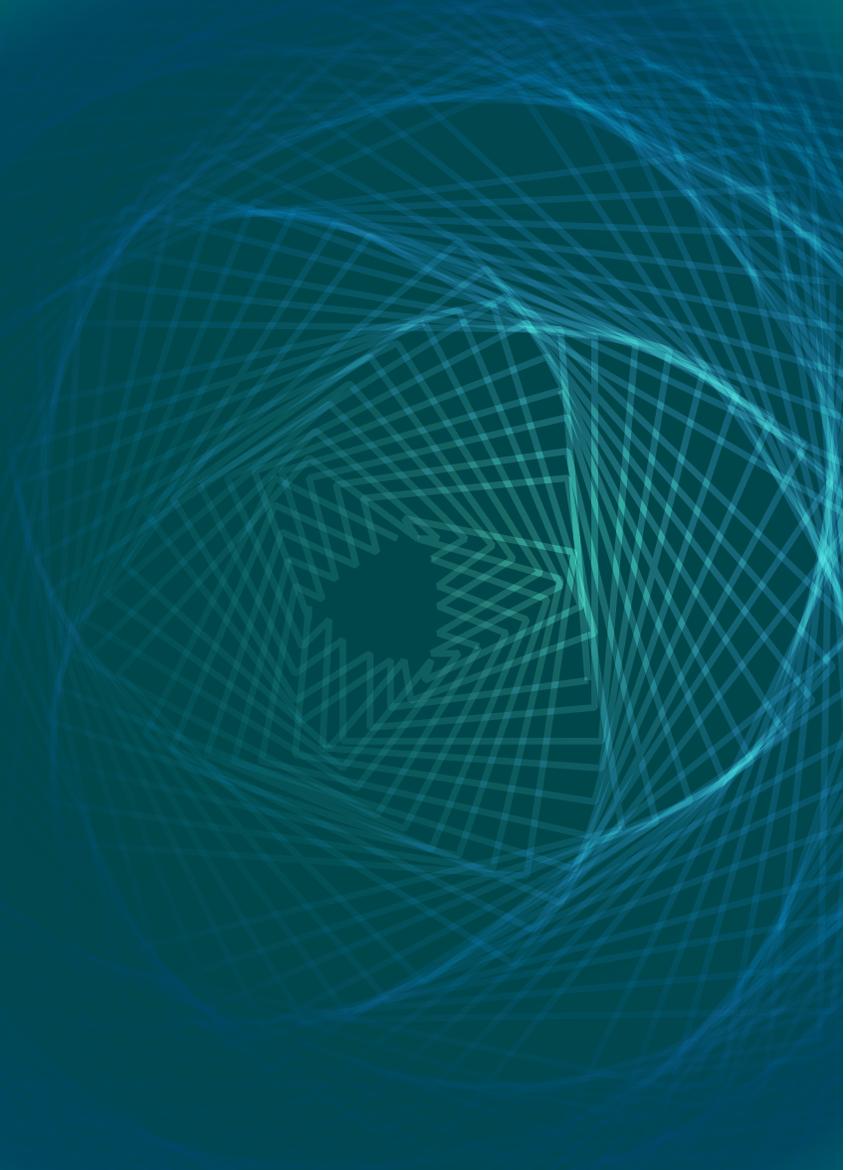
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Teacher Perspectives on String Music for Young Musicians

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Abstract

This chapter outlines a multi-site, multi-year pragmatic study, entitled Sound Connections: Composing Educational Music, concerned with what works and solving problems related to the relationship of music composition to music learning. Findings indicate that the composers most often wrote several movements, each which could be performed as an independent work and with themes that appealed to young people. The pieces were rated by the teachers as easy to medium level with some of them having particularly challenging sections which required additional rehearsal time. Overall, students were able to follow the development of musical ideas and understand the structure of the compositions. Several performance skills were developed such as preparing the entry, hand positioning, fingering, plucking and bowing. Musical elements were also developed, including an understanding of dynamics, form, texture, timbre, pitch, and duration, in addition to melody, harmony, and rhythm. To promote learning, the teachers employed a variety of instructional strategies, including listening, demonstration, sub-dividing learning tasks, isolating difficult note patterns, marking the bowing, using the metronome, variations in tempo, repetition, rhythmic exercises, memorization, guided practice, improvisation, and self-reflection.

Introduction

A critical problem for music educators in Canada is the lack of Canadian music for educational purposes, both in schools (Bartel, Dolloff & Shand, 1999; Shand & Bartel, 1998) and higher education (Andrews & Carruthers, 2004; Caruthers, 2000). The reasons for this situation are two-fold: composers are not trained to compose music for young musicians; and the lack of commissions for educational music in Canada (Andrews, 2005). Previous research in which composers were commissioned to compose music for schools has determined that success in this area requires ongoing contact with young musicians and an ability to adapt to students' abilities (Andrews & Giesbrecht, 2013, 2014). Further there are specific compositional techniques that can be employed by composers to promote musical development (Andrews, 2009). However, the nature and extent of this relationship has not been explored. Consequently, more research is required in this area.

Method

Theoretical Framework

This chapter outlines a multi-site, multi-year pragmatic study, entitled Sound Connections: Composing Educational Music (Andrews, 2015), concerned with what works and solving problems related to the relationship of music composition to music learning. The study employed Integrated Inquiry, a multiple perspectives methodology (Andrews, 2008). This approach involves gathering and combining data from different sources, qualitative and/or quantitative, or from the same source over an extended period of time, to obtain a comprehensive understanding of a problem, issue or challenge. In this study, the four dimensions of creativity research served as a theoretical framework for the study; that is, Place, Process, Person, and Product (Odena, 2012; Starko, 2005). Four protocols were created based questions from an international study (Andrews, 2004) and refined in collaboration with members of the Ontario Regional Council, Canadian Music Centre. These protocols were embedded in the four dimensions of creativity research and completed by composers and teachers invited to participate in the study.

- Place (teacher journal)
- Process (composer record)
- Person (teacher learning report)
- Product (composer compositional review)

This article focuses on the findings of the teacher learning reports over a three-year period. The learning reports focused on the "Person" with the question: "What do teachers and their students learn from collaboration with composers?" The invited participants were fifteen composers and fifteen music teachers throughout Ontario over a three-year period. Fourteen composers and fourteen teachers agreed to participate in the study. Fifteen composers were selected through a juried process by staff of the Canadian Music Centre. They were chosen based on substantial composing experience, accolades, and professional performances of their compositions. None had specific training in composing for music learners. The composers were asked to create string compositions that were suitable for student musicians to learn and play, and they were teamed up with fifteen music teachers in public schools. Fourteen composers and fourteen teachers agreed to participate in the project. The teachers taught the newly-composed compositions to their string music students and completed two protocols: a teacher journal during the process and a teacher learning report on completion of the project. The learning reports were divided into four parts, each with a set of secondary questions. These questions and level of participation by teachers are outlined in Table I.

Analysis of Teacher Learning Reports

Part I: Organization of the Composition

The number of movements ranged from two to six per composition. Three teachers did not identify any specific movement number. It was not clear in the data whether these three compositions were one long movement each, or simply unidentified. Two teachers did not respond to this question directly, but in a later question, one identified at least four movements in the composition, and the other, however, did not identify a movement number. Four compositions were either one long

movement or unidentified. One composition was organized into two movements; two were organized into three movements; two were organized into four movements, with one of these possibly into more; three compositions were organized into five movements; and two were organized into six movements. Consequently, the distribution of the number of movements per composition, from one through six, was: 4 (1); 1 (2); 2 (3); 2 (4); 3 (5); 2 (6).

The music teachers generally distinguished the typically self-contained movements within the compositions they were working with by using words like *distinct*, *contrasting*, and *different* from each other. These differences were in thematic ideas or compositional techniques found in rhythmic and tonal sequences. The self-contained nature of one composition's movements allowed for the possibility of their independent performance. The composition titles mentioned suggested that some composers appealed to the interests of the young students with themes such as *Sports* or *Basement Apartments*.

Table 1: Level of Participation in the Teacher Learning Reports

Teacher Learning Reports	Level of Participation
Part I: Organization of the Composition	How is the new composition organized? What is the musical form? Is it easy to understand?
Participants who Answered Questions	12 out of 14 (86%)
Part II: Development of Musical Ideas	Can your student(s) follow the organization and development of ideas? How are the musical ideas organized and developed? Can you follow the organization and development of ideas?
Participants who Answered Questions	13 out of 14 (93%)
Part III: Student Skills/Teacher Strategies	What specific musical skills did the students develop when learning the new composition? Identify the teaching strategies used to develop each of these musical skills. Please refer to the bar numbers within the composition when responding.
Participants who Answered Questions	13 out of 14 (93%)
Part IV: Recommended Improvements	Based on your experience with this project, what improvements do you recommend?
Participants who Answered Question	14 out of 14 (100%)

Part II: Development of Musical Ideas

The strategies for organizing and developing ideas were quite broad. The majority of the teacher responses focused on strategies that clarified the organization and development of musical ideas, while a few emphasized how the organization presented challenges for the music students.

All fourteen music teachers responded to Part II questions. Ten felt their students were quite easily able to follow the organization and development of ideas overall, while four teachers reported that this was difficult for their students at first. Most teachers described areas of accessibility and challenge for their students as applicable to their particular compositional piece.

Some students were able to notice particular notation techniques, provided by the composer, like double bar lines to separate parts, as being easier to follow. Modified and varied rhythms in the piece were easily detected. Added clarity came from recognizable themes. Students quite easily detected noticeable changes in octave and dynamics. Repeating rhythmical patterns were also recognizable, particular in tying together related motives. With teacher assistance, students were

able to recognize rhythmic distinctions from articulations. Almost half of the teachers emphasized the importance of explanation *with the teacher* in assisting students to follow the organization of the piece.

Clarity and logic in structure and score were recognized and highlighted by the teachers in three of the compositions. Another composition allowed for musical effect with fewer notes. The teacher working with this particular composition felt that this simplified the process for students. Consequently, they were better able to move beyond the challenges of complex notation and challenging fingering and playing techniques to better concentrate on changes in register and the expression of dynamics.

Part III: Musical Skills and Teaching Strategies

The most frequently discussed skills by the music teachers had to do with the technical efficiency of playing a string instrument.

- From the very beginning of playing a composition, preparing the entry was established as a required skill. This set the stage for successful playing by beginning the piece with correct breathing, eye contact with the teacher or conductor, and physical form and movement.
- Hand contraction and shape were identified as an important and very basic skill in playing with the left/non-bowing hand as important for both standard and higher position playing for the violin and cello.
- Hand shifting was another developed musical technical efficiency skill. For both violin and cello, whole step and half-step shifts and slides were required for playing the compositions.
- Finger dexterity was also developed in changes from high to low finger placements and the progression in accidentals from simple (lines and spaces) to more complex notes (flats and sharps).
- *Pizzicato*, or plucking, can be done by the left or right hand, depending on the composition and instrument. Transitioning from *pizzicato* to *arco*, or plucking to drawing the bow across the strings, was also an identified required skill.
- The retake, where the bow is lifted and circled back to the starting position, was reported to be a crucial beginning skill to be learned.
- Achieving sound production at the tip of the bow was acknowledged as another essential early skill for the string player.
- *Crescendo* and *diminuendo* were learned in increasing and decreasing the loudness of the strings, respectively, through bowing pressure.
- *Legato* was learned through playing long notes linked smoothly together with the whole bow. This was played either with or without volume changes and swells.
- *Tenuto* was practiced through controlled, steady bowing to hold notes for their full count.
- *Staccato* notes were learned through short, quick bow strokes. This extended to a thrown staccato, or *ricochet*, where the violin's bow was dropped and bounced on the string during a stroke.
- Another bouncing sound was produced and practiced through *spiccato,* a horizontal bow stroke, leaving the string cleanly.

- The skill of playing two adjacent strings at once to make a *double stop* was also required and developed.
- Smooth crossing from one string to another was practiced, as well as further development of double string crossings in a limited time.
- *Sul ponticello* was recognized as another developed bow skill, where the bow is played close to the bridge for higher harmonics and a more nasal or glassy tone.
- Finally, alternate bowing locations, like playing behind the bridge, and playing the wire at the end of the tailpiece, were also expanded techniques that the students learned through some compositions.

A broad range of instructional strategies was employed by the teachers.

- Listening was the primary focus in the development of new material and was used to accompany other strategies in learning technical and performance skills, skills around musical elements, hearing musical expression, and connecting notation to sound.
- Teachers identified both student-led and teacher-led demonstrations as useful for learning complex rhythms and expressive playing.
- Sub-dividing learning tasks into smaller sections made new material more accessible as students learned in steps or increments toward the whole piece.
- Isolating notes, such as five notes for the different hand positions, was a common strategy. The physical movement of playing notes was often established before showing the notation.
- Marking the bowing before rehearsing, as a way to subdivide the learning task, especially for rhythm was employed.
- The metronome was suggested as a useful tool for hearing the subdivisions of the beat and for learning syncopation.
- Variation in tempo, that is playing slowly and then increasing the tempo was a commonly used teaching strategy to learn note patterns and rhythms.
- Repetition through demonstration and subdivision within practice sessions was commonly used. Repetition also assisted in stamina building for intense dynamic work, and it provided reinforcement of new skills learned.
- Kinesthetic exercises and body percussion were used to emphasize rhythmic accents/patterns.
- Teaching from imitation and then memory were recommended, and later on notes and notation were taught. Scales were identified as most effectively learned through memorization.
- Guided practice was a teaching strategy emphasized by all the teachers in the study.
- Creative work, which included improvisation, harmonizing, playing by ear, and problem solving, was promoted by the teachers.
- Students were encouraged to be self-reflective about their learning process and to identify specific areas for improvement.

Part IV: Recommended Improvements

In an experience involving so many variables, experiences were quite different depending on the style and personality of the composer, the composition being created, the teacher and his/her

teaching style, and the personalities and abilities of the students. Some of the teachers reported that they recognized that the experience varied with the different composers. Six teachers explicitly indicated that they were highly satisfied with the entire process of this study and found it valuable and useful. The majority of teachers offered some recommendations for improvement in the process of this study and in the strategies used for teaching and learning a new composition to early learning string players.

Almost half of the teachers identified a need for increased collaboration between the composer and teacher and between the composer and students. Two other teachers supported this by emphasizing how important collaboration with the composer was to their students and their own positive experience of this process. Generally, planning time and meetings with the composer were needed. One teacher admitted that the composer only came to school once which was most unfortunate. Another admitted that they had expected much more collaboration during the writing stage of the composition. Beginning a rehearsal with a fully developed score was a quite a surprise.

It was suggested that composers consult with the teachers before writing to clearly establish the students' musical knowledge and skill level, and their age-appropriate interests and tendencies. Greater collaboration between teacher and composer was required during the writing process to enable the composer to acquire a better understanding of how to bring clarity to the score for the music students. One teacher offered support for collaboration noting that the sharing of student technical abilities with the composer resulted in a piece that was challenging but accessible.

More collaboration with the composers was expected with students during writing by the teachers. This would provide the opportunity for students to give the composer feedback as needed. Working together, students and composer could test parts of composition to better refine pieces. Greater opportunity was needed for the composer to work with the students directly while they were learning the composition. This would assist in increasing students' comprehension of the new piece, enhancing a positive experience for them, and evoking a higher level of musical appreciation. Collaborative possibilities on location in the school setting were deemed necessary due to the frequent lack of student availability outside of school hours, notably due to busing.

It was suggested that the criteria for choosing composers for this type of project should be modified. A pedagogical focus by composers on writing music for the needs of string instrument learners is required to increase the probability of success. Collaboration between the composer and a highly experienced teacher was highly recommended.

Complex, unexpected rhythmical pieces and challenging notation increased the level of difficulty of the new works. A teacher reported that students suggested the pieces should focus on the beginner at a consistent level: short, simple, repetitive pieces were recommended by them. Beginners would be less overwhelmed with complex visual aspects of scoring by using simple notation. Students would then be better able to move beyond the challenges of complex scores, fingering and technique, to better concentrate on changes in register and dynamic expression. It was also suggested that bowing should be written into the score as it was difficult for student musicians to figure out on their own.

Another teacher expressed appreciation for the contemporary style in the composition with which the composer was working. This allowed students to gain experience and appreciation for modern and post-modern musical techniques.

Student interest was stressed as an important motivating factor for student learning. One teacher recommended "catchy," pop-like, musical arrangements to increase student engagement and understanding. Compositions held students' interest through contrasting sound and strategies that enhanced the physical sensation of playing. Allowing freedom, through the development of a dynamic tempo scheme promoted student concentration and interest. A positive working relationship between composer/teacher and composer/students promoted overall interest and enthusiasm with the group.

Some of the teachers felt that their students needed more time to feel comfortable with and develop competence in playing the newly-composed compositions. In these cases the process felt rushed and more time was needed for the level of difficulty. This further influenced the overall enjoyment in the project. Extended practice was needed for fluidity and mastery of new techniques. Teachers suggested earlier access to the composition and extended workshop time.

Several teachers suggested increased performance opportunities to improve the project experience for their students. One suggested that a concert of performing groups of similar style and ability would have been helpful to students in order to learn more from peers. For another, funding did not allow for a culminating public performance, but having this opportunity would have been an improvement to the overall experience. Still another commented that multiple performance of the new work would improve those playing skills embedded in the new work. It was also suggested that performances that included the composer would have enhanced the learning experience.

The number of occasions that the teacher and/or students interacted with the composer varied. Most importantly, the teacher consulting with the composer was an important factor in the composition's playability. For some of the sites, the consulting teacher was present more often than the composer: this added support was appreciated by the students.

Interpretation of Teacher Learning Reports

In this section, findings are summarized and emerging themes and trends are discussed with a focus on the question: "What do teachers and their students learn from collaboration with composers?"

If student learning is a primary focus of educational music, it is essential to identify compositional techniques that develop students' musical skills (Andrews, 2015). In his research, Andrews (2009, 2013) identified the following as compositional techniques that develop and affect student's music learning: short melodic units, repetition, pulsating rhythms, contrasting chord progressions, equality of parts, level of ability, technical proficiency, pedagogical development, challenge, musical quality, and enjoyment. These align with the teachers' responses that applied to the compositions with which they worked.

Compositional Diversity

In the *Sound Connections Project*, *difference* seemed to be a *similarity*. The fourteen compositions had diverse themes and were diverse in terms of the number of movements in each. Within the compositions, movements were typically distinct and contrasting from one another in theme, rhythmic, and tonal sequences. The compositions also varied in form. Some were identified as generally clear and simple, others adhered to ternary forms such as ABA and ABC, and another was defined as contemporary with post electronic and vocal work. This diversity acknowledges the creativity and uniqueness of each composer and composition. Uniqueness and contrast keep the music interesting and young musicians engaged. This applies to the diversity in one piece of music, or the interest maintained from learning diverse and varied pieces over time. The teachers, supported by Andrews (2009, 2013), reported that pedagogical factors held student interest. This was evident as students' skills and their abilities were stretched through the use of contemporary techniques in the compositions. Interest, positive learning experiences, and enjoyment are interrelated and reinforce one another to encourage and enhance learning (Dewey, 1913; Silvia, 2006).

Compositional Difficulty

An increase in difficulty level may affect interest to the point of confusion and lead to learner frustration and actually hinder the learning process. The level of difficulty in educational music is hard to define and identify, and access to concise guidelines that clarify consistent difficulty levels are only recently available with the development of the Music Complexity Chart (MC^2) (Andrews, 2011). However, research on interest and text difficulty by Fulmer, D'Mello, Strain, and Graesser (2015) suggests that there does appear to be a correlation between interest and difficulty level, and finding a balance between the two is important for optimal learning. According to the teachers in this study, the compositional difficulty level varied from beginner to medium. Most compositions had areas of challenge and accessibility for students that affected difficulty level. Challenges and increased difficulty resulted from complex and extended visual scores and rhythms, unexpected thematic direction, and the requirement of expressive playing and advanced ensemble skills. Additional challenges involved tonal changes, increased speed and syncopation, and switching between *pizzicato* and bowing.

Compositional Accessibility

Many variables that go beyond the actual composition can affect accessibility. These include: the past music experiences, capabilities, and interests of the individual students; the style and proficiency of the teacher; and the particular environment in which the students are learning. The teachers did not identify their own proficiencies as effective educators and did not describe the environment that they created for their students. Granted, they were not asked any direct questions about these areas. Crossover could have taken place when they were asked about the teaching strategies they used, but teacher proficiency and optimal environment were addressed only very superficially.

Musical ideas come from previously acquired musical experience (MacDonald, Wilson, & Miell, 2012); so does the understanding of musical ideas. The limited experiences of beginning music learners restricts their understanding. Keeping this in mind, it was reported that the concepts and

skills that students could easily identify within many of these compositions were: rhythm, form, melody, key, time, tempo, mood, and articulation. As it relates to the compositions in this study, overall student understanding and accessibility were good. Most students and teachers could follow the organization and development of musical ideas presented in the compositions. Student accessibility came from familiar and intuitive structures that were both short and/or extended with ample resting. Further, accessibility was fostered through repetitive bowing, even bow distribution, repetitive and rhythmic patterns, and contrasting moods with changes in octaves, dynamics and articulations. Clear and logical music organization and development were important for student accessibility. Identified strategies were modified notation with fewer notes, repeating ideas and serial sequencing, familiar themes, and intuitive connections of ideas. Other strategies employed involved related and distinct rhythm and pitch direction, and clear and logical melody and harmony. Overall, the teachers reiterated many of the compositional strategies previously identified by Andrews (2009, 2013).

Music Skills Learned

There is a connection between compositional techniques, musical learning, and skill development (Andrews, 2011). Collins & Dunn (2011) identify three types of music cognitions for music composition: holistic, macro, and micro. These correspond to three similar types of learning cognitions: aims, goals, and objectives, respectively. In the Ontario arts curricula (MOE, 2009, 2010), these also align with the strands (Creating and Performing, Reflecting, Responding and Analyzing, and Foundations), overall expectations, and specific expectations of the documents, respectively. The holistic, big picture was addressed in the opportunity and experience of learning to play a new Canadian composition. Teachers described the music skills developed by their students in the following general areas: aural skills, music notation, interpretive expression, music elements, technical proficiency, performance ability, and creative work. These skills fit within the categories of strands (holistic), overall expectations (macro), and specific expectations (micro). When these skills are aligned with learning cognitions, most skills, however, fall under the holistic strand, *Creating and Performing: Elements of music, techniques and technologies, and creative process* of the Ontario arts guideline and its attendant overall (macro) and specific expectations (micro) (MOE, 2009, 2010a, b). With categorization, there is always the risk of erecting boundaries that exclude when an idea does not fit exactly into the "boxes." Aural skills, interpretive expression, and music notation are all integral to creating and performance, but they also fall under other strands within the Ontario curriculum, including Reflecting, Responding and Analyzing, and Foundations (MOE, 2009, 2010a, b). While other senses come in to play for a holistic experience, typically the aural/hearing/listening ability and skills are paramount to any musical experience. This includes listening to others' playing or listening to one's own playing, in real time or afterward (i.e., a recording).

Not surprisingly, technical proficiency and the understanding of the music elements were the areas most widely discussed by the teachers in this study. This reflects the importance placed on these two by the teachers, particularly as they relate to creating music and performance ability. The technical skills for playing a stringed instrument are complex and require much time and effort to develop. These include: preparing the entry; left hand position, shifting and fingering; *pizzicato*; and right hand bowing. Articulation and modulation were also emphasized. More traditional techniques included: tremolo, crescendo and diminuendo, legato, tenuto, staccato, sforzando, glissando and jazz slides, and *sul ponticello*. Some of the compositions also enabled students to

learn more contemporary playing techniques, such as bowing behind the bridge and on the wire of the tailpiece, and percussive techniques using the instrument and body.

Rhythm received particular emphasis from the teachers: it is a music element that is the most rudimentary to effective music learning. It begins with a basic beat or pulse recognized by early beginning music learners but can also extend to extremely complex rhythmic patterns only mastered by advanced musicians. Like the other elements, it is a concept that is learned and then built upon as students develop. Balance is not typically listed as a musical element, but it has importance in music and is typically listed as a principle in other arts forms such as visual arts and dance. Recognizing and learning balance within and between the elements as well as throughout the ensemble was stressed by teachers. This can be subtle and requires practice and experience which develops slowly as beginner players become more advanced.

Creative work includes interpretation and improvisation. Musical improvisation is dependent on long-term memory and access to conscious and unconscious knowledge (Pressing, 1998; Hsieh, 2012). Improvisation is dependent on internalizing music during real-time performances, knowledge in musical structures, musical skill to play an instrument, strategies to interpret and formulate, flexibility to make changes as needed, stylistic knowledge, and understanding of how to apply personal musical style. Improvisation generates, forms, and reforms musical ideas (Faulkner, 2003), and it is directly related to problem solving. Creative and critical processes that foster problem solving are valuable education skills that move beyond music.

Teaching Strategies Employed

The teachers acknowledged that music skills were learned best when accompanied by explanations and assistance from them. Typically, the students experienced more difficulties at first, but they were able to work through them with guidance, practice, and extra time. The identified teaching strategies used to develop multiple music skills were as follows: listening, discussion, demonstration, subdivision of parts, tempo adjustment, repetition, memorization, practice (guided, collaborative, and independent), experimentation, learning other parts, posture, and self-reflection.

Here, it is important to acknowledge that one teacher cautioned, "due to variation of skill sets within an orchestra, teaching strategies are myriad and individual, and cannot fit into 'little boxes.'" Teaching strategies have been presented and described as they applied to various musical skills learned, but they should be considered as openly linked and reliant on one another. For example, *listening* is pervasive as a musical skill (aural) in multiple areas, and it is also an instructional strategy used by teachers. Listening, discussion, demonstration, experimentation, and self-reflection are all strategies practiced and shared by students, teachers and composers. Posture aligns with Gardner's (1983) multiple intelligence learning styles. It taps into kinesthetic intelligence and learning, but also enhances and overlaps with other teaching strategies such as speed adjustment, repetition, and muscle/music memorization.

As an instructional strategy, chunking lessons into smaller subdivisions is commonly practiced across the school curriculum. Consequently, it is no surprise that subdividing was identified as a common strategy in teaching the compositions in the music classrooms. Chunking in a music lesson will typically include listening, whole group and small group discussions, teacher and student demonstrations, opportunities for guided, collaborative and independent practice, self-

reflection, and performance. Subdivision, when learning music skills, includes tempo adjustments, repetition, memorization of fragments, and guided practice.

Guided practice is a form of scaffolding (Vygotsky,1978). It grew out of the medieval apprenticeship model in western teaching, but it is also linked to pre-educational, non-western and aboriginal models of learning life-skills from family and community members. This suggests a natural progression from learning with help, to practicing collaboratively and then independently, and finally towards mastery of the task or skill.

Collaborative activity and practice draws value from the social context in which the music is formed, experienced, and celebrated. The group facilitates dynamic flow of the music, including exploring, testing, developing, rejecting, and accepting musical ideas (Faulkner (2003). Learning other parts lends to collaborative learning and empathy among peers. Collaboration also overlaps with creativity, as it can drive creativity more than solo efforts (Robinson, 2011). Creativity fostered and facilitated by teachers developed both collaboratively and independently. Moreover, it emerged from experimentation (Lapidaki, 2013; Trueman, 2012). Experimentation, another instructional strategy emphasized in the study, opens up opportunity for new musical discoveries. An environment with emotional connection and support between the student and teacher enhances opportunity (Veloso & Carvalho, 2012). Webster (2012) suggests that experimentation, opportunity for self-discovery, revision and self-reflection, and sufficient time are key factors in promoting student music learning.

There was a consensus among the teachers that the students' proficiency in all areas was highly dependent on the time spent learning and practicing each piece. More explanation, guidance from the teacher, and more practice meant better understanding and playing ability. Promoting enjoyment as an instructional strategy also cannot be underestimated. When students enjoy what they are doing, they will continue to do it, making all other learning easier and more successful.

Recommendations

The teachers provided recommendations for the project which included: increased collaboration with composer; sufficient pedagogical focus by composer; consistent and appropriate level of compositional difficulty; simplified and appropriate notation; sufficient resting; a contemporary composition (i.e., popular music techniques); extended practice; sufficient time for more performances; sufficient copies of scores and parts; and adequate space on research protocols for providing input.

"What do teachers and their students learn from collaboration with composers?" This is the specific question for the teacher learning reports in this study. Collaboration was emphasized as an instructional strategy, so it is no surprise that teachers recommended further collaboration with the composer, especially when this did not happen. Typically, the compositional process begins with experimentation and is then developed (Andrews, 2015). It would be particularly helpful if there were more collaboration at the preparation, idea germination, elaboration, and refinement stages of the developing compositions (Andrews, 2009; Andrews & Giesbrecht, 2013; Camphouse, 2002, 2004, 2007). Collaboration with the composer allows movement, both vertically from one stage to another, and horizontally within solution spaces (Collins, 2007; Giesbrecht & Andrews, 2015), although Katz & Gardner (2012) view composition creation as

more fluent than occurring in levels or stages. Early meetings with beginning music learners assist the composer in gauging their technical abilities and developmental levels. The adjustments required are typically more technical rather than stylistic (Andrews, 2006). Music composition, as a collaborative experience among composers, teachers and students, may lead to new directions in teaching and learning (Veloso & Carvalho, 2012).

Andrews (2009) indicates that composers need a pedagogical focus to compose successful and appropriate educational compositions. Highly trained composers learn complex compositional techniques written for music professionals, but they are not typically taught how to create appropriate music for young musicians (Andrews, 2013, Andrews & Giesbrecht, 2014, Colgrass, 2004). The composers in this study credited their skill in composing for early music learners to their classroom teaching experience and experience in conducting student ensembles (Andrews & Giesbrecht, 2013). Overall, it was a challenge for composers to write for learning musicians (Andrews, 2013; Andrews & Giesbrecht, 2013). This is an area of possible further study.

Composers in this study generally acknowledged that a strong composition is balanced in technical proficiency, musical challenge and enjoyment for the player (Andrews, 2015; Andrews & Giesbrecht, 2013). This enjoyment is hopefully extended to the listener. This balance is quite difficult to achieve for a suitable educational composition. Consequently, the teachers' recommendations to the composers are most valuable for composing for young musicians.

Implications

Through their learning reports, music teachers provided greater insight into the successes experienced and areas of improvement required when Canadian composers create educational compositions for beginning string music students. This is important because more knowledge is needed regarding the characteristics, predispositions, and motivations of composers, music teachers and beginning music students, and how they can benefit from working together. Seeking ways to improve learning is a continued goal in education. More specifically, seeking ways to improve music development in beginning string instrument players is a goal for music teachers, composers of educational pieces, and string music education. Identifying the compositional techniques that promote the musical development of young musicians is the overall theme of this project and this component of the project promotes movement toward this goal. The findings will be relevant to composers, and music educators of elementary, secondary and post-secondary music programs who are interested in the composition, teaching and learning of new string music within schools.

The teachers indicated that the *Sound Connections Project* was successful overall. The experience was mostly positive for their students and them, and it did provide valuable information for areas of improvement (outlined in their recommendations). Each grouping of composer, teacher and students produced a unique experience with their own set of specific variables. This is to be expected in a complex project such as this which involved different types of participants and multiple sites.

The teaching strategies educators used were varied and addressed multiple skill sets. The strategies align with current teaching practices in lesson structure such as chunking, subdivision and guided practice. The majority of teaching was teacher-lead, with students gaining independence with

increased proficiency. Students were given more creative freedom and opportunity for problem solving through improvisational opportunities, and they were encouraged to be self-reflective. Further opportunity for music teachers to be more creative, critical, and self-reflective about their praxis would be beneficial. Future music curriculum documents need to allow for this freedom. Acting as a facilitator in a more integrated relationship between the students and composer would promote a more student-centered approach to skill development and teaching. The past experience and training of teachers will affect their comfort in this less controlled approach. Professional development offered at post-secondary institutions, school boards, or related governing or community bodies could provide opportunities for music teachers to explore and gain confidence in the possibilities of student-centered learning in music. Expanding teaching approaches will expand the possibilities of better ways to learn in music education.

Further possible research questions are:

- How do current post-secondary music education programs address composing for pedagogical purposes? What strategies can be used to enhance training in composing for pedagogical purposes and how can this change be implemented?
- How can composers collaborate with music students with limited experience and knowledge?
- How can music teachers facilitate student-centered collaboration with composers?
- What strategies can music teachers use to improve their creativity, critical thinking, and self-reflective practices?
- What are the possibilities and implications of student-centered learning in the music classroom?

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