ESTABLISHING A METACOGNITIVE MODEL FOR INSTRUMENTAL MUSIC ASSESSMENT

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Dedication

I dedicate this to my patient, supportive, loving, and beautiful wife Jennifer for the sacrifices she has made - absent evenings and summers, all the proofreading, and my endless talk about my research and resource - over the last three years that have allowed me to successfully complete not only this project but also ultimately my entire Master of Education degree.

To my children, Daniel and Sophie, who have spent many hours away from me so that I could achieve the success that I have had during this degree, as well as having put up with the times I have been home yet absent in thought and work. May my dedication, work ethic, and the successful results I have attained be an example to you both regarding what you can achieve when you strive for excellence throughout your lives. Thank you for your patience and never diminishing love for me, even when I wasn't always patient in return.

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when I felt like doing so myself, and for opening up the world to me through music. Her student-focused legacy will always live on in my own teaching.

Soli Deo Gloria!

Abstract

Traditional instrumental music assessment models may often contain the inclusion of grades that are based upon non-musical criteria. This type of grading leads to difficulties in assessment validity, reliability and fairness, and do not lead to an increase in metacognitive abilities that develop students' technique and musicianship. A metacognitive assessment model that is based upon assessments for, as, and of learning is needed as metacognitive musical learning potentially aids students in developing the skills necessary to become independent musicians who can identify and address challenges in their own performance. Through the use of feedback, reflection and goal setting, modeling and self-assessment, teacher instructed strategies, a consideration of students' bio-ecology, and a consistent focus upon the constructs that need to be assessed, assessment tools have been designed to help develop student metacognition and foster greater independence, musicianship, and skill in instrumental music students.

Preface

As long as I have been teaching music I have struggled with finding ways to inspire students to practice outside of class. Like many band teachers I have made extensive use of practice records. Practicing at home, recording the minutes, having a parent sign it, and handing it in at various intervals constituted a large percent (usually twenty percent) of my students' grades each reporting period. The argument nearly every band educator I knew, including myself, had for this practice was simply that it was the only way to get most of them to do at least some practicing.

During a professional development session for Fine Arts and Physical Education educators I attended a little over four years ago, we were challenged to discuss and find ways to rid our assessment practices of anything that was not authentic. At first, many of the teachers at the session were reluctant to admit anything we graded was lacking in authenticity, but soon the Physical Education teachers were surpassing the Fine Arts ones in looking at how they graded participation, whether students were changing for class, and a number of other items that did not necessarily need a numerical grade. As a result of these conversations, a seed had been planted in my mind regarding whether or not including practice minute journals in instrumental music grades was a valid practice. However I had no way of understanding just how quickly this would become an issue for me.

This session occurred at the same time as my third term report cards were due, and the grade of one student in particular caught my eye. This grade eight student had become an outstanding musician and alto saxophone player in the nearly three years he had been in my band program. However his grade was not indicative of his ability. As I

reviewed my grades, I noticed he had only scored a mark of seventy-five percent. This student regularly scored the highest on performance test and music theory assignments therefore his grade baffled me. At first I expected there was a problem in the weightings within my grading program; however this was not the case. As I studied his results, it became very clear why his grade was so much lower than it should have been: he had not handed in any practice journals, resulting in a twenty-percent drop in his grade. At that moment I realized that quantitative practice journals did not measure the *quality* of student practicing. Instead, it simply demonstrated how organized they were handing in a sheet of paper with potentially inflated minutes to keep their grades up. Though I didn't know it at the time, my colleagues and I were placing a tremendous amount of grade weight on an assignment made up completely of *construct irrelevant factors* and therefore negatively affecting the validity of our grades and assessment practices. Some students who handed in practice minutes were receiving credit whether or not they had actually practiced while others, who clearly were practicing, were receiving lower grades based upon their organizational skills. Haladnya and Downing (2004) termed this as *construct irrelevant easiness* and *construct irrelevant difficulty.*

> Construct-irrelevant easiness refers to a contaminating influence on test scores that tends to systematically increase test scores for a specific examinee or a group of examinees; construct-irrelevant difficulty does the opposite. It systematically decreases test scores for a specific examinee or a group of examinees (Haladnya & Downing, 2004, p. 18).

Though Haladnya and Downing (2004) are referring to test scores, I believe their terms can also be applied to the type of grades that were resulting from my assessment

model at the time. I began paying much closer attention to the grades students were "earning" and noticed a pattern: some of my best musicians, who often scored tremendously high on performance tests and music theory assignments, were receiving grades in the mid to high seventy percent range. Other students, who were either not improving or completely stalled in their musical development, were scoring in the high eighties to low nineties even though their performance on the same assessments was mediocre. Though it sounds strange, I had never realized during the first ten years of my teaching career that the grades were askew simply due to the fact that twenty percent of the grade was based not upon a students' technical and musical ability but rather upon their (and often their parents') organizational skills and level of honesty.

During the last several years I have experimented with this part of my band assessment by adjusting the weightings of practice sheets, or using them with some bands and not with others, in order to discover what the best method of assessment is. This has resulted in my recognition that what is needed is much more than just a focus on practicing. Students need to practice for the development of their musicianship skills and this will take much more of an assessment design change than just adjusting what I do with a narrow focus on practicing. An assessment model needs to be designed to make practicing outside of class better understood by students and increase their overall performance and musicianship.

It is my hope that the instrumental music assessment model that I have designed here will begin to help lead my current and future students on a musical journey that will result in a far greater understanding of not only why practice is important, but more importantly how to practice qualitatively in order to increase their technical ability, guide

them in continuous goal-setting, and aid them in becoming independent learners and musicians. For this to occur, a focus on qualitative musical development must be emphasized over simple quantitative practice. Ultimately, though practice is essential to musical development, it is not necessarily the amount of time practiced that results in a higher level of musicianship, but rather how music is strategically practiced that leads to musical success.

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Introduction

School band programs have existed in the United States since the early twentieth-century. Between 1910 and 1925, band programs increased in number and prominence within communities at the local, state, and national level (Schmidt-Jones, 2007). This increased presence coincided with educational advancements in music theory, music appreciation and the spread of the phonograph (Humphreys, 1989). At the same time in Canada, instrumental music instruction was occurring in Ontario during afterschool hours. Band programs, however, did not become part of the school timetable until after World War II, in part due to a lack of certified music teachers (Hurst, Leonard, Hotte, Shullman, & Leong, n.d.;). Quoting Green and Vogan (1991), Wasiak (2000) highlighted this shortage "as the most fundamental impediment to the implementation and continuance of school band programs throughout Canada" (p. 123). In the place of certified teachers, British and Canadian military personnel, or musicians with no teaching credentials, were hired to fill the need, while teachers that were hired included American music educators or musicians or Canadians with American music education degrees (Wasiak, 2000, p. 123-124).

Though this lack of personnel is significant, there exist a number of other historical reasons why curriculum, instruction, and assessment in school band programs have not been given as much priority as in other subject areas as well. Wasiak (2000) described a number of these, particularly pertaining to the development of school band programs in Saskatchewan in the decades following World War II. As instrumental music became a curricular course in various school systems during this time, "the rationales used to support school bands became more philosophical and education oriented"

(Wasiak, 2000, p. 120). However Wasiak (2000) further pointed out that the resulting problem was that “philosophy tended to follow, rather than direct, practice” and the “music educators themselves never adopted a universal philosophical statement; consequently, considerable differences in individual philosophies existed among them” (Wasiak, 2000, p. 121). An example Wasiak (2000) presented of this lack of philosophy in regards to practice existed in Saskatchewan as a provincial curriculum was not adopted for band programs until 1993, in spite of the fact that band programs had existed, to various degrees, in schools since the 1950s and 1960s (p, 122).

Another reason for a de-centralized, individualistic approach to music education (and consequently the instruction and assessment thereof), is that early on, school bands were modeled on professional and military ensembles due in part to the number of bands that had been formed during the war. Because funding for instruments and uniforms was needed, opportunities to gain access for this came primarily at first from the Air Cadet League of Canada and the Canadian Department of Defense and “in 1942, the first band organized in Regina's Public School Division" (Wasiak, 2000, p. 116) was formed. Within a decade, school bands also contained a community element of student and adult members that were based out of high schools (Wasiak, 2000, p. 117). As can be seen, curricular, instructional, and assessment challenges within instrumental music are rooted in a variety of issues rooted in the early, post-war years as such programs becoming a part of school course offerings.

Though the historical literature does not widely indicate what part individual practicing has traditionally played in school band programs, it is generally accepted that “practice is a fundamental aspect of all musicians’ development” and that a great deal of

time is spent by musicians of various levels on individual practice (Mikzsa, 2013, p.1). However, as in the development of school bands in Saskatchewan, purpose and method vary immensely.

A very brief scan of ten middle school band websites from various locations in the United States and Canada indicates that practice records are part of many school band programs (see Appendix C). Though this is by far not an exhaustive list by any means, even this small a sampling showed that wide variations of usage exist in their intent. Five schools required students to fill in only the amount of time practiced, and on which days of the week. Four required the time component as well as a brief description of what was practiced. One utilized a practice record where students reflected in-depth upon practice processes and habits with no indication of the amount of minutes. All practice records, with the exception of two that were web based, required parents to confirm their child's practice minutes with a signature. Only half of the schools demonstrated attempts by music educators to increase student awareness of practicing processes and push them from quantitative to qualitative practice sessions. Nine out of ten schools included practice records within grading, ranging from ten to forty percent of the final grade. Interestingly, the schools with the higher grade weightings also had very little or no reflection built into practice.

In order to better help meet the needs of students and their musical development, it is necessary to provide them with skills and strategies that will raise their metacognitive awareness in regards to how they practice as well as helping them develop self-regulatory skills. Andrade (2013) claimed "monitoring progress towards goals can be a process of thinking about one's own thinking" and expanded her definition of metacognition as

"one's knowledge of cognition as well as the processes of monitoring, controlling, and regulating one's own cognition" (p. 24). A result of increased metacognition in students is the development of self-regulated learning. Quoting Zimmerman and Schunk's (2011), Brookhart (2013) defined self-regulated learning as "processes whereby learners personally activate and sustain cognitions, affects, and behaviors that are systematically oriented toward the attainment of personal goals" (p. 39). These definitions indicate that for self-regulated learning to result in students, purposefully increasing levels of metacognition within teaching models, learning, and classroom assessment need to occur.

Self-regulation skills are evident in metacognitive learners as they are better able to link ideas between mind and instrument whereas less able students focus simply upon the instrument itself (e.g. Bathgate, Sims-Knight, and Schunn, 2011; Benton, 2013; StGeorge, Holbrook, and Cantwell, 2012). Increased cognition enables students to move away from quantitative practice to qualitative results (e.g. Prichard, 2012; Shuler, 2011; Wasiak, 2013). Metacognition rises within instrumental music students through modeling (Prichard, 2012), instruction that limits the amount of new information students need to process (Clark & Harrelson, 2002), as well as methodical planning (Benton, 2013). The literature therefore demonstrates that students who develop increased metacognition of practice habits demonstrate abilities to better understand, and make connections between, practicing and technical development.

The impact increased metacognition in practice has on technical ability is reflected in higher levels of performance (Bathgate et al., 2011) while students using lower levels of metacognition tend to stall in their development or decrease in ability (Benton, 2013). Through reflective practice and multiple assessment opportunities (e.g.

Benton, 2013; Shuler, 2011; Wasiak, 2013) students are able to demonstrate the connections they make between practice and ability.

Research also demonstrates a need for caution as students have various reasons for participating in band that will affect the level of metacognitive development they will experience and transfer to technique (Bathgate et al., 2011; Clark & Harrelson, 2002; McPherson & Renwick, 2001). When attempting to increase metacognition, processes should be limited in number (Clark & Harrelson, 2002) as too much metacognition can also inhibit technical development (Sternberg, 1998).

Clearly there exists a wide range of support for increasing metacognition surrounding the practice habits and overall development of young musicians. However, to demonstrate that an instrumental music assessment model such as this is essential, it is necessary to review what existing literature says regarding the need for increased metacognition in musical practice and its potential impact on technical and musical ability.

Literature Review

Perhaps the most successful middle school band I have had the pleasure of teaching and conducting occurred during the last school year. Although this class had practice minutes sheets they had to record and hand in for ten percent of their grade, by the end of the year only fifteen of fifty-eight students had bothered to hand in a sheet even once throughout the entire school year. Yet, this group of seventh and eighth grade students outperformed fourteen previous years of middle school bands in technique and musicianship as was demonstrated at the Alberta Provincial Festival of Bands where they earned a Superior Award. Having already researched how to increase metacognition in

band practice in order to develop a truly authentic and metacognitive assessment model, I did not find this surprising. I speculated that these students had not participated in band for the *grade*; they had chosen to be in band for the *experiences* it gave them.

Students become a part of band for different reasons that are both extrinsic and intrinsic. For some, being a part of the school band has more to do with which of their friends are involved than the musical experience and development of their technical ability which for others can be the major focus of their participation (McPherson & Renwick, 2001, p. 172). While this may have factored into students' reasons for participating in band, something else seemed to drive their development as well. Through feedback and reflection, students were able to recognize that while there were various aspects of their performance that needed addressing for development, other areas were stronger and this may have helped create a better perspective about their own ability and progress. This is reflected by Oare's (2011) claim that, "researchers have found that students who participate in self-evaluation become more interested in applying the criteria and improving than in the specific grade they get on an assignment" (p. 30). This type of student participation, then, gives them more ownership over their own development and understanding of the standards they must meet. But feedback must be given in order for them to explore how to build and refine performance ability. The combination of these may help increase student metacognition surrounding their own performance and musical development.

Increasing students' metacognition, however, will not simply occur on its own. Clark and Harrelson (2002) wrote that students' various abilities and personalities would all interact with metacognition in the process. Teachers will need to develop "an

understanding of these other aspects of students' functioning, and of how they interact with metacognition" (p. 128) in order to have a more complete understanding of metacognition and how to develop it in students. This process will be aided greatly by a thorough understanding of the purposes of assessment within the instrumental classroom.

Defining Assessment

Wiggins and McTighe (2006) defined the term *assess* as "to thoroughly and methodically analyze student accomplishment against specific goals and criteria" (p. 337). Assessment then is defined as "techniques used to analyze student accomplishment against specific goals and criteria. A test is one type of assessment. Others include clinical interviews (as in Piaget's work), observations, self-assessments, and surveys" (p. 337). Breaking it down further, a test can be defined as "any systematically administered set of procedures that results in some level of measurement of an attribute" (Bonner, 2013, p. 88), and Wesolowski (2012) described assessment techniques as measurement and data evaluation. He also did not limit it solely to student performance but included program measurement as well (p. 36), all of which work together in educational decision making.

It is also worth noting that a distinct difference lies between the terms assessment and evaluation. Wasiak (2013) claimed that though these terms are being used "increasingly used interchangeably … evaluation involves making decisions about the quality, value, or worth of a response, product, or performance for the purpose of assigning a mark, grade, rank, or award or making decisions" (p. 425). Evaluation is therefore one component of the assessment process as a whole and educators need to be

aware of this distinction as it refers mainly to assessment of learning or summative assessment.

Taking these into consideration, it becomes clear that music educators cannot simply rely on a few items to assess student performance, let alone understanding. “Good assessment requires a balance of techniques because each technique is limited and prone to error” (Wiggins & McTighe p. 337). Wesolowski’s (2012) claim that the same techniques may be applied in regards to program evaluation also indicates that music educators should not just be assessing their students but also their own assessment models and the means of collection of information. Relying on long practiced models and techniques may not drive student musicianship and performance, and will not address how to increase overall understanding of the instrument, its intricacies, and the student’s own technical ability.

Weaknesses within Traditional Methods

In order for music educators to address deficiencies or absences of these types of metacognitive processes within their programs, a shift in thinking about assessment will need to occur. This will need to initially occur in what actually needs to be assessed. Much of the problem lies in how traditional assessment models have relied too heavily upon “non-music criteria, such as behavior, attitude, attendance, and participation to determine their grades” (Wesolowski, 2012, p. 37), resulting in an unclear understanding by students of their achievement, how to improve their abilities, or even what is expected of them. Additionally, Wasiak (2013) claimed, “learning outcomes have not always been clearly specified beyond simply striving for excellence while preparing for the next performance” (p. 141). In this way, Wasiak (2013) clarified that a huge part of the focus

on school ensembles has been upon [public] performance of instrumental programs as a whole rather than on the development of individual players. The difficulty that arises from this is that band programs become so focused upon the end product that what each student needs is neglected to the point that they do not necessarily know exactly what is expected of them and how to attain it. “If you are not exactly sure what ‘it’ is you are trying to accomplish, how will you know if you accomplished ‘it’?” (Wasiak, 2013, p. 141).

If students are not aware of what they are trying to accomplish, or even how to approach it to begin with, it becomes difficult to expect them to practice away from the classroom. Individual practice has long been an expectation of music educators yet many students have very little comprehension of how to really do so (Pitt, Davidson, & McPherson, 2000, p. 45). In order to get students to practice at all, educators have traditionally taken in the time practiced for grades as a way to motivate students to practice. As more than one educator has explained to me, if you don’t take it in for grades they simply won’t do it.

Oare (2011), however, claimed that this type of use of practice time as a motivator would not help students to grow musically. “Since their goal is to put in time, they are less likely to set goals related to improvement. Instead, they tend to play through songs for the required number of minutes and neglect to identify and correct mistakes” (p. 43). The end result then is students simply putting in time rather than focusing upon quality and improvement. This type of practice is ineffective according to Pitts and Davidson (2000), who claimed that practicing simply because parents or teachers tell students to does not sustain a student’s motivation to play an instrument. In the end, it simply

"encourages performance behavior rather than the concentrated and disciplined work needed to foster musical development" (Pitts & Davidson, 2000, p. 53).

Another problem that can arise from students simply putting in practice time results from when the time is taken in for grades. When this occurs, instrumental music grading becomes punitive in the sense that so long as a student puts in the time (or not) and makes sure to report that he or she did, they are rewarded with a higher grade versus a student who accurately reports less time or honestly none at all. What is therefore created within the music classroom is a system of reward that can foster cheating in some students (and their parents who sign off on the minutes) as well as a sense of unfairness towards those who are truthful about their practice habits in regards to the amount of time spent doing so. This type of punitive grading, which involves reward and punishment, may result in impressive practice sheet numbers, however it will not foster a sense of, or desire for, excellence within instrumental music students.

To overcome this, practicing needs to involve more than just a time component. Rather than practicing for time or simply because of the expectations of others, research indicates that including goal setting in the practice process is essential (Oare, 2011; McPherson & Renwick, 2001). Also termed deliberate practice, goal setting and structure help increase "motivation, resources and attention" and help "determine the amount and quality of practice undertaken" (McPherson & Renwick, 2001, p. 169). Goal setting, then, is an important component of making practice meaningful. It becomes clear that quality, rather than time spent, should be the goal of practicing, however quality cannot be indicated simply through recorded practice minutes as is a common practice mentioned earlier.

The key to qualitative, or deliberative, practice is the increase of metacognition surrounding that practice. Progress is more evident in students who are cognitively engaged in their practice and who "learn to learn" (Pitts & Davidson, 2000, p. 46). A critical component of such practice is the development of a reflective awareness that draws more deeply upon higher levels of student awareness (Bathgate, Sims-Knight, & Schunn, 2011). Without such a metacognitive approach, students can fall into practice habits where at times they may repeat sections with evident mistakes, however more often demonstrate that the goal is simply to get to the end. McPherson and Renwick (2001) described this in their longitudinal research of several band students and found that "there was virtually no evidence of the deliberate practice strategies that are typical of expert musicians" (p. 174). While the frequency of practicing and the time spent doing so are still important factors in a student's musical development (Bathgate et al., 2011), reflective awareness and "the quality of students' practice may actually be more important than the amount of time spent practicing" (Prichard, 2012, p. 2). Developing a metacognitive approach to practice rather than a participatory one is essential to helping students develop technically and musically.

Validity and Reliability

Before looking at issues of validity and reliability found in traditional instrumental music assessment practices, it may be helpful to define these terms, and other issues that arise under them, in a more general sense regarding assessment.

Researchers to various degrees have defined *validity* in different ways over time. For example, Yancey (1999) explained validity in a basic sense stating that it meant "that you are measuring what you intend to measure" (p. 487). Others have expanded upon this

definition and included more aspects. Slomp and Fuite, (2004) explained that because he believed validity needed a much broader understanding that included an ethical aspect as well (p. 193) Messick (1990) defined validity as "an integrated evaluative judgment of the degree to which empirical evidence and theoretical rationales support the adequacy and appropriateness of interpretations and actions based on test scores or other modes of assessment" (p. 1). When this ethical consideration is included, educators need to ensure that the grades their students receive clearly reflect a students' performance on the constructs being measured, and that the uses and interpretations of those grades are justifiable.

Along with validity, *reliability* is another aspect of assessment that needs to be addressed. "Weigle (2002) defines it as "consistency of measurement across different characteristics or facets of a testing situation such as different prompts or raters" (p. 49). Reliability is dependent on the concept of measurement error: the difference between an individual's 'true' score and actual score (Gall, Borg, & Gall, 1996)" (Slomp & Fuite, 2004, p. 191). Reliability increases when results are replicable in more than one instance or situation.

Validity and reliability do not exist apart from each other. Moss (1994) wrote, "without reliability there is no validity" (p. 6). However validity and reliability can also affect one another negatively and there exists a conflict between them. Slomp and Fuite, (2004) explained that we must not make that mistake in thinking that reliability is simply a component of validity.

As well as consistently separating the concepts, Gall et al. (1996) state, "Although reliability is essential to validity, this does not mean that test scores with good

> reliability always yield valid score inferences" (p. 254). A test that is perfectly consistent but that does not measure what it purports to measure demonstrates little validity (Slomp & Fuite, 2004, p. 191-192).

What is being measured then is termed a construct. When the situation as Slomp and Fuite, (2004) described arises, two areas of concern appear in terms of validity: construct validity and construct irrelevant variance.

Construct Validity can be defined as "how accurately an assessment aligns with the theoretical concept or mental framework of the intended learning outcomes or objectives of the instructional unit" (Gareis & Grant, 2015, p. 29). Validity increases when the constructs and assessments are closely in line. However at times assessments may also be measuring constructs other than those intended. This is termed *construct irrelevant variance* and it **"**occurs when the test captures constructs, in addition to the intended construct, that it was not designed to capture" (Slomp & Fuite, 2004, p. 194).

These two concerns are not the only concerns that arise in terms of validity and, consequently, reliability. *Construct under-representation* "occurs when the test fails to capture important elements of the construct" (Slomp & Fuite, 2004, p. 194-195). In this situation, an assessment does not measure what was initially intended because there is not enough of the original construct being assessed within it.

Closely tied to this is *content validity*, which is described by Bonner (2013) as seeking "to demonstrate the relevance of individual test items or tasks to curricular standards" (p. 93). Focusing on this helps teachers ensure that their assessments align with set standards or curricular outcomes while identifying "how adequately an assessment samples the intended learning outcomes of an instructional unit" (Gareis &

Grant, 2015, p. 31). The alignment of the constructs and the assessments is what is being emphasized in content validity.

A final area worth defining is *consequential validity*. This area of validity is "concerned with the appropriateness of the intended and unintended outcomes that ensue from an assessment" (Gareis & Grant, 2015, p. 34). They go on to explain that consequential validity looks for any possible unintended consequences that may affect students as a result from using a particular assessment (p. 36). The types of decisions made as a result of an assessment can have immense consequences for students. Further, Bonner (2013) claimed that these types of decisions can be difficult to undo in regards to selection and placement in various student programs, and included "decision-accuracy, decision-relevance, and freedom of bias" (p. 97) as examples of measurement consequences that may arise when making decisions about individuals or groups.

To summarize, Slomp and Fuite, (2004) offer a succinct explanation of the concepts of validity and reliability.

> Observe that validity mostly relates to the connection between *test and construct* and to the *implications* of test scores. That is, validity is most closely associated with the object of representation in education: the construct. Further, observe that reliability mostly relates to the connection between *test and students* and to the *generation* of test scores. That is, reliability is most closely associated with the representation in education: the student's knowledge (p. 198).

Validity and Reliability within Traditional Music Assessment

As participation grades, the emphasizing and grading of practicing for time, and a lack of metacognitive engagement exist in traditional instrumental assessment models,

perhaps one of the biggest problems that results from these practices is how they affect the validity and reliability of instrumental music assessment on the whole. This is in part due to a misunderstanding of what actually should be assessed: the time spent practicing or the results of student practice? However the most important focus should be upon what students have learned versus the intended outcomes. The grading of non-musical criteria such as participation, attendance, or attitude (Wesolowski, 2012) are a few examples of such misunderstandings as to what is important for students to know and do. However, one example in particular that demonstrates problems with validity results from students handing in recorded practice minutes. These lack validity in two particular ways.

The first is in regards to how truthful students (and their parents who sign these sheets) are being and causes concern when performance results do not align with the time practiced. In this situation, uncertainty arises regarding whether or not students are honestly putting in the time without going back and addressing issues encountered within the music (McPherson & Renwick, 2001) or if both parties are simply filling in the sheets for grades without any practice having been done. The resulting grades also call into question the fairness of the assessment model, particularly towards the students who are practicing qualitatively and honestly.

If the goal of having students practice is to improve their technique, musicianship, and understanding of their instrument, then the quantitative results derived from recorded practice sheets cannot produce any data by which teachers can ascertain students' practice habits, challenges, strengths, and areas where they need particular instruction. These records lack validity because they do not provide enough information about the processes of practicing and therefore do not measure what they intend to measure. Gareis

and Grant (2015) defined validity as the "extent to which inferences drawn from assessment results are appropriate" (p. 27). Grading recorded practice time provides a teacher with only quantitative information that cannot result in any accurate inferences that can be made regarding practice quality. Prichard (2012) suggested an alternative assessment where students keep a practice log that includes "details such as excerpt practiced, strategy used, and time spent" (p. 7). This would give teachers information not just about individual students' practice time but also what and how they are doing so. Teachers can then incorporate the use of practice targets or goals and then be able to suggest "appropriate strategies, scaffolding the experience until students have gained enough experience to diagnose and select appropriate strategies on their own" (Prichard, 2012, p. 7). This sort of formative assessment may not only raise student metacognition regarding practicing and their own development, but also provide teachers with valid and reliable information upon which to base future planning and assessment.

The overall issue regarding instrumental music assessment and the grades that result from various practices therein, is whether the tools being used (be they practice minute journals or subjective participation grades) align with the purpose of an assessment in the first place, resulting in questions surrounding construct validity. Bonner (2013) claimed that the "validity of interpretation of test scores is ultimately a question of construct validity; that is, it is based on score meaning and the representation and relevance of score meaning to the construct that was measure" (p. 89). Gareis and Grant (2015) discussed this regarding "the appropriateness or meaningfulness of an assessment's target" and "whether a test, quiz, project, or performance assesses what we intend for it to assess" (p. 27). An example of a question of construct validity lies in how

the instrumental music curriculum in Alberta outlines specific targets in regards to many different areas of performance (I.e. range, dynamics, rhythmic variation, and efficient practice habits) but does not specifically mention practice in terms of duration (Alberta Education, 1991). Because of this, variance results when an assessment tool such as a practice minutes sheets are included in grading practices as they miss the targeted outcomes stated within the curriculum.

Alongside problems of validity found within traditional band assessment models that depend upon non-musical grading criteria (Wesolowski, 2012), issues with reliability also surface. Reliability in education is concerned with whether or not the results of an assessment are dependable, or consistent and stable (Gareis & Grant, 2015: Bonner, 2013). However there also exists a potential danger in narrowing the definition of reliability too far, however. Parkes (2013) warned that large-scale assessment programs tend to define and operationalize the concept. if they are "concerned *only* [italics added] with the replicability of measurement" (p. 66).

In this sense, a student who hands in practice minutes each week with little variation in the amount, and demonstrates strong participation daily, may make it seem that these types of grades are reliable. The problem, however, is when the performance assessment results are uneven for such a student. If this is the case, a number of questions that affect the reliability of the resulting grade should surface. If the minutes practiced are accurate, how is the student practicing? Are they demonstrating an understanding of how to practice (Pitts & Davidson, 2000) by spending time working on the areas of weakness or simply pushing through to the end of each selection before moving on (McPherson & Renwick, 2001)? Is the student really practicing the stated time? And in then end, even if

they have a tremendous attitude in class, are they truly meeting the intended targeted outcomes (Gareis & Grant, 2015) as they are outlined within the curriculum? These types of assessments may seem replicable on the surface but in reality do not measure what truly needs to be measured. In such cases we find problems circle around each other as "the lack of reliability detracts from the validity" (Gareis & Grant, 2015, p. 27).

For music assessment to become reliable, it must be done regularly and in multiple ways in order for educators to gain a "wide range of information about student learning" (Wasiak, 2013, p. 143). It also should address "whether a student's performance on an assessment is a true indication of the student's learning and not unduly influenced by error" (Bonner, 2013, p. 39). A common type of error is a systematic one "that is unintentionally built into an assessment and is likely to affect student results" (Bonner, 2013, p. 38). In the case of past instrumental assessment models, the possibility of errors affecting results can be seen in subjective scoring practices (I.e., grading of performance tests without rubrics as well as participation grades) and cheating (filling in practice sheets including parent signatures even if practicing has not occurred). These examples give evidence of assessment practices that include a potentially great amount of construct irrelevant variance. Errors such as these must be eliminated for instrumental music assessment to become more reliable.

With issues of validity, reliability, and errors that exist in some music assessment models, a final issue arises. Bonner (2013) claimed, "closely related to validity in assessment are fairness and equity" (p. 90). Not all students parents will sign a falsely filled in practice sheet; however those that do help inflate their children's grades. In my own experience, this resulted in very talented students who did not hand in a sheet of

paper receiving vastly lower grades than others whose performance was tremendously lacking. In regards to behavior and attitude grades, how does a teacher lay their own bias aside in assessing a student who may be a very good musician, yet does not always demonstrate a desire for the good of the ensemble as a whole? This, too, affects the fairness of a grade as what is being assessed is not the musical targets or outcomes, but non-curricular criteria. The result is an assessment model that contains construct irrelevant variance with results that are not fair to students.

Assessment As, Of, and For Learning

Subjective grading practices, including marks for non-musical criteria and reporting practice time without reflection or improvement strategies, may also cause errors that can result in problems with validity, reliability, and, ultimately, fairness. What is necessary then is to have an instrumental music assessment model that will help increase achievement that is based upon three assessments types: assessment *as*, *of*, and *for* learning.

Assessment has often been divided into two categories: formative and summative. However within these, assessment can be broken down even further. Bonner (2013) described assessment *for* learning as a formative practice where the "primary purpose is to guide and improve student learning and/or teacher instructional practice" (p. 90). This is done in many ways from simple questioning to larger assignments that inform "teachers about how best to meet students' learning needs and interests" (Wasiak, 2013, p. 147). These types of assessments are not taken for the purpose of producing grades but function rather to guide student learning and increase understanding. Within an instrumental music classroom, this can be done through observation and assessment of

the ensemble as a whole, or by the questioning of individual students (Wasiak, 2013); it can also be accomplished through group discussions about particular passages rehearsed within the classroom.

Increasing metacognition within students regarding their performance and musicianship will rely heavily on assessment *as* learning. In this type of assessment, students receive feedback from their teachers and combine this with self-assessment and self-directed learning (Gareis & Grant, 2015). This can potentially affect their understanding and musical development and occurs either during ensemble rehearsals or individual practice (Wasiak, 2013). Musicians demonstrate this in their ability to adjust to challenges and apply a range of strategies to overcome challenges (Pitts, Davidson & McPherson, 2000).

Assessment *of* learning is what parents and students often seem most interested in; that is the grades that students earn. For reporting purposes, educators make judgments about student learning based upon summative assessments that then translate into numerical or letter grades (Gareis & Grant, 2015). Wasiak (2013) included in his definition that it "is used to confirm what students know, understand, and can do, to demonstrate whether they have achieved the curriculum outcomes, and, occasionally, to show how they are placed in relation to others" (p. 147).

Assessing with these three approaches in mind will help create an instrumental music assessment model that increases metacognition in students, all the while helping them become independent learners (Oare, 2011) and musicians. Quoting Elliott (1995, p. 261), Hewitt (2002) indicated that in order for the goal of developing students' future musicianship to occur, educators needed to determine "what students need to feel, know,

and be able to do to make this happen" (p. 215), and that not enough had been done in this area. Oare (2011) echoed this when he wrote that the goal music teachers must strive for is "to develop literate musicians who no longer need us" (p. 41).

For these three types of assessment to exist within a metacognitive instrumental music assessment model, a number of components must be included. These include feedback, reflection and goal setting, modeling and self-assessment, teacher instructed strategies, and a consideration of students' bio-ecological context.

The Importance of Feedback

A vital component of an assessment model that will achieve this is *feedback*. Many researchers have emphasized the importance of feedback as a necessary part of assessment (Stiggins & Chappuis, 2005; Wiliam, 2013; Ruiz-Primo & Li, 2013; Hale & Green, 2009; Scott, 2012; Wasiak, 2013). Ruiz-Primo and Li (2013) stressed the importance of feedback as it "helps students develop sufficient insights into their own learning and become self-critical, self-reflective, and self-directed" (p. 220). Feedback needs to also be frequent to be effective (Stiggins & Chappuis, 2005), and timely, being provided promptly after as assessment is completed (Bonner, 2013).

Feedback must also be precise in order to help close "the gap between what is understood and the learning target" (Schneider, Egan & Julian, 2013, p. 66). Hale and Green (2009) described the importance of providing students with explicit information in order to help them better achieve the standards they are striving to achieve (p. 29), while other explanations of feedback indicated that it must be very descriptive to be effective (Stiggins & Chappuis, 2005). Another key to providing students with feedback is that it goes beyond simply indicating what is right and wrong within the finished product but

also “in what ways something was right or wrong” (Ruiz-Primo & Li, 2013, p. 220). Conversely, if the given feedback does not provide students with information that helps them move forward to mastery of the intended learning target it will not be effective (Schneider et al, 2013).

Other aspects of the nature of feedback are also discussed. Ruiz-Primo (2013) emphasized the importance of providing feedback at a level that students are able to understand (p. 220), and Wasiak (2013) wrote that though feedback needs to be honest, it also should be encouraging to students. In regards to music assessment in particular, feedback that is constantly negative creates a sense of discouragement in students (Wasiak, 2013) and music educators must be mindful of the fact that the goal of musical perfection is “elusive” and “unattainable” and that “this often leads us to focus on what needs to be improved” (p. 309-310) rather than on providing information that can help students positively develop.

Feedback is often described in terms of its formative nature (Wiliam, 2013); however it can also help students plan for what to do next in their development (Ruiz-Primo & Li, 2013). Scott (2012) wrote “active engagement with feedback information gives students experience in implementing actions to improve future performance” (p. 33). This is similar to Bonner (2013) who stressed that for improvement to occur in learning outcomes, feedback needs to direct “students to specific actions within their capabilities to improve” (p. 98). Feedback then may often be formative in nature, but it can also be summative in the sense that after an assessment it can be used to help guide students in other types of practices that will help them increase their metacognition: *goal-setting and reflection.*

Reflection and Goal Setting

As indicated above, in order for feedback to be effective, it must also be tied to particular learning targets or goals (Ruiz-Primo & Li, 2013; Schneider et al, 2013). For goals to be set, I believe that a combination of feedback and reflection plays a large part in guiding students to setting their own goals. Reflection and goal setting gives students the opportunity to take on a larger role in their own development within the assessment as learning process. Together, these processes help students answer questions such as

> *Where am I going? Where am I now? How can I get there from here?* In other words, students need to know what the intended learning or expected standard of quality is. They need to know how to judge and monitor their own progress. (Stiggins & Chappuis, 2005, p. 15).

When students address such questions through reflection, setting goals in order to achieve an expected standard becomes a more fluid process for students. One cannot clearly establish goals without reflection upon past performances, as this will create an unfocused developmental process. Hewitt (2002) described reflection as "comparing self-monitored information with a standard or goal" and as a result, "goals can originate from a preset array of criteria or standards, one's own previous performances, or from performances of others" (p. 216).

These processes help develop metacognition within instrumental music students and help guide their individual practice habits as well. Oare (2011) described how practice assignments with clearly defined goals and criteria "can effectively encourage confidence in their practice ability" (p. 44). Also, when practice involves setting goals and reflection, in order " to reach desired outcomes, students engage in metacognition,

which aids in planning, monitoring, and assessing learning" (p. 44). The use of these metacognitive skills also creates self-awareness within students when they are reflecting upon their practicing through the entire process: before, during, and after (Benton, 2013, p. 53).

The importance of including the writing process, and its potential for transfer, within musical development and assessment is highlighted by Shuler (2011), who wrote **"**Writing is one authentic way for students to demonstrate their ability to understand, analyze, and evaluate music; writing also provides a valid link between music class and the goals of local English language arts programs" (p. 11). This reflective practice can be built into the course of lessons and rehearsals (Benton, 2013) where students can assess themselves, either individually or as a group (Wasiak, 2013).

As noted, written self-reflection can also contribute to the transfer of skills beyond the music room. Currently, in many of our province's schools there is a large emphasis being put on literacy. This is due in part to the proposed competencies for students found within Alberta's *Framework for Student Learning* (Alberta Education, 2011) and the emphasis upon student literacy in the document *Literacy First* (Alberta Education, 2010). Here, literacy is defined as "acquiring, creating, connecting and communicating meaning in a wide variety of contexts [however] at their core most definitions relate to oral language and an individual's ability to understand and communicate through text" (Alberta Education, 2010, p. 3). The incorporation of metacognitive practices such as written reflections and goals within instrumental music assessment models then also fulfills proposed changes to learning and assessment and creates connection to Language Arts and literacy.

In the end, however, the focus is not upon the legitimacy this gives instrumental music assessment practices, but the affect it will have upon students and their learning. There is a strong connection between reflection, goal setting, and making choices with the increase in student motivation (Benton, 2013) and ultimately, students will find practicing more enjoyable "when they work to accomplish goals rather than practice for a required amount of time (Oare, 2011, p. 44).

How Modeling Impacts Self-Assessment

As indicated earlier, when students reflect upon their own performance and set goals for their continued development, they are self-assessing their own progress and are taking part in the assessment as learning process, through metacognitive skills. Developing these abilities allows students to "look beyond their own point of view and to see themselves in relation to a standard. It also teaches empowerment" (Hale & Green, 2009, p. 29).

A key part of self-assessment that will aid in this process is *modeling* as students may have difficulties understanding the performance targets they should be striving for if they do not know what they should sound like in the first place. This can apply to entire musical passages or to techniques such as tone and articulation. As described by Hewitt (2001), modeling can help students (and their teachers) avoid a number of dangers that can occur through students' misunderstanding:

> Without a model to compare to their own performance, students may make inaccurate assumptions regarding their playing ability. This incorrect perception of their proficiency could alter goals they set for themselves. In the case of an

> assumed "good" performance, it may lessen their desire to practice, as they have perceived their targeted objective to already be achieved (p. 318).

A lack of modeling, then, can negatively affect instrumental music assessment even when effective metacognitive processes (reflection and goal setting) are included, and in regards to the intended outcomes, students' results may not be as positive as these metacognitive practices potentially provide.

Modeling plays a key role particularly for younger players as they do not necessarily understand what they should sound like at all, a problem attributed by Oare (2011) to the fact that most young people listen primarily to popular music and therefore often "lack a strong aural image of the music played by their ensembles" (p. 42). This creates a need for a strong aural model that helps students internalize what good performance actually sounds like (Pitts & Davidson, 2000). This is further explained by Shuler (2011), that "First, *students need to understand 'quality'.* In assessment [terminology], they need to understand the "traits" or criteria that describe good work" (p. 11). When students understand this, they are actively engaging in the assessment process and are also better able to understand how the assessment criteria are being applied to their own musical performances (Scott, 2012), all the while learning "how their own performances will be compared to the [defined] levels of performance" (p. 33).

Though modeling is clearly an effective and necessary part of developing students' abilities to self-assess, reflect, and set goals, it will not be of use if students are simply told to just go and listen to provided or prescribed recording of bands or individual players. Modeling alone will not help develop metacognitive skills in instrumental music students. While it may help them identify their own strengths and

weaknesses, it will not necessarily provide them with any understanding of how to find solutions that will help them improve (Hewitt, 2001). This disconnect is evidence of the need for a change in assessment practice as, "The development of diagnostic and prescriptive skills should constitute a greater portion of the junior high band curriculum" (Hewitt, 2001, p. 319). Shuler (2011) echoed this when he explained, "once they have assessed their current status, students need to know how to progress from where they are to achieve high-quality results" (p. 12). For modeling to be most effective, it must be combined with self-assessment and reflection in the sense that students should be able to describe how they sought to identify and find a solution to a particular problem. A possible example of this could be "I forgot to take a big enough breath on the rest, so I could not play through the phrase. Next time, I will remember to take a bigger breath" (Benton, 2013, p. 57-58).

The effectiveness, or the lack thereof, of modeling if it is not combined with self-assessment and reflection, ultimately lies in the fact that teachers will need to instruct students in how to self-assess against a desired standard. This can be seen in the topic of practicing as described earlier. Too often, practice is emphasized as "something that is 'good for you'", creating an "attitude unwittingly perpetuated by teachers and parents, and one which fails to connect with children's intrinsic motivation, or to provide them with goals that are attainable and finite" (Pitts & Davidson, 2000, p. 53). Simply telling students to go home and do so without teaching the purpose and processes that are necessary for effective practice to occur will not result in students understanding how to achieve what they are listening to.

Teacher Instructed Strategies

For this to occur, educators need to provide students with strategies for how to self-assess and then achieve the musical and technical levels of the models they are listening to. Students need to be assisted in the process of assessing how they did when applying these strategies (Hewitt, 2011) for them to be most effective and result in increased ability. Simply providing "strategy knowledge alone is not enough for effective learning. An individual has to learn how to use these strategies in flexible and changing ways" (StGeorge et al, 2012, p. 253). In the end, if educators are using metacognitive processes in rehearsals, and students understand how to reflect upon, adopt, and apply the strategies provided to them, it is only then that their performance will improve (Bathgate, Sims-Knight, & Schunn, 2011).

McPherson and Renwick (2001) indicated that for teachers to provide strategies at all, students must first "comment on how and in what ways they believe that their playing was correct or wrong according to the printed notation" (p. 179). Once this has occurred, "a teacher can devise strategies for making the identification of performance errors more explicit" (p. 179).

Research also provides us with various types of performance and practicing strategies. Oare (2011) gave examples such as practicing in small chunks rather than running through the music all at once, slowing down, repetition, and the use of performance rubrics that help students achieve the desired results (p. 46). Conductors can also use a step-by-step approach that teaches students "to identify and isolate difficult passages, select appropriate practice strategies, and make improvements to their playing" (Prichard, 2012, p. 1). "Demonstrating to the student how they played, as compared to

how the piece should sound" as well as planning ahead for potential difficulties by scanning the music (McPherson & Renwick, 2001, p. 179) are just a few explicit strategies that music educators can provide to their students.

These types of strategies provide further benefits to students through the use of well-constructed rubrics that help teachers, students, and even parents understand the assessment process. For the purposes of instrumental music assessment, analytical rubrics, rather than holistic ones, provide a lot more information (Wesolowski, 2012) on the many different types of performance categories (E.g. tone, pitch accuracy, articulation, dynamics, rhythm, etc.) and are better able to aid in developing students' metacognitive skills in regards to musicianship and technique. This is due to how analytical rubrics can demonstrate how student performance can vary from one category to another. Strengths and weaknesses become more clearly evident in these rubrics as "students may master one area but perform in an average or below-average manner in another" (Weselowski, 2012, p. 38). When these are more clearly identified, teachers are able to devise strategies that help students address deficiencies in their performance, all the while contributing to the development of metacognitive skills and processes surrounding their own musical and technical development.

Considering the Bio-ecological Context

A final area that also must factor into an assessment model such as this would be taking into account the *bio-ecological factors* that may affect a students' ability to actually practice and develop in the first place. Addressed last in this literature review, it is actually the primary area of assessment for learning an educator must undertake before any successful increase in achievement can result. Though this assessment model is

focused upon increasing metacognition in middle school band students, keeping student bio-ecological context in mind throughout the process plays a tremendous part of the equation. These can include challenges such as personal learning style(s), parental involvement and support, socio-economic situation in regards to living situations, and transportation to school (walk, ride, bus, or a combination). Assessing without these in mind creates another instance of construct irrelevant variance as students are being assessed on their life situations rather than their musicianship. Recognizing such potential challenges allows such an instrumental music assessment model to keep its metacognitive focus because the challenges are recognized, and better able to be addressed by students, teachers, and parents.

Bronfenbrenner and Morris (2006) defined a bio-ecological model of human development as "the phenomenon of continuity and change in the bio-psychological characteristics of human beings, both as individuals and as groups" (p. 793). This type of model has four principal components that dynamically interact throughout human development. *Process* involves interaction "between an organism and environment, called *proximal processes*, that operate over time" (Bronfenbrenner & Morris, 2006, p. 795). These processes influence development in combination with the "characteristics of the developing *Person,* of the immediate and more remote environmental *Contexts,* and the *Time* periods, in which the proximal processes take place" (p. 795). Processes are enhanced or limited due to their interactions with the last three principal components.

With instrumental music, raising the metacognition regarding qualitative practice that results in students' musical development is highly dependent upon keeping their bio-ecology in mind. Slomp (2012) proposed that within writing assessment, a shift "from

assessing products (the artifacts that point to writing ability) to tracing the trajectory of one's development over time and across contexts" (p. 82) needed to occur. Within this statement there exists a similarity to instrumental music assessment needs, in the sense that a shift needs to occur away from simply getting ready for performances to a focus that includes the full scope of what impact qualitative practicing will have on students' process understanding and their end product as demonstrated by technical ability and musicianship.

To accomplish this, the assessment focus must take into account tremendously more than just whether or not students are practicing. Wardle and Roozen (2012) describe such a model for writing assessment as gathering "data addressing students' wide range of experiences with writing and the impact those experiences have on their abilities to accomplish academic tasks" (p. 107). It is also necessary to take into account their experiences in and out of school and the effect these may have upon writing ability. To effectively accomplish this in music, contextual variables such as living situations, past parental musical involvement, and first and second languages (and therefore cultural background) will need to be explored and considered in order to understand the elements within students' physical environment that will aid or impede their musical development. Only when this is accomplished will the effectiveness of a metacognitive instrumental music assessment model be maximized. It is also important in understanding why student, or program, growth may or may not be happening.

A Word of Caution

It is worth providing a word of caution regarding the development and use of a metacognitive instrumental music assessment model as well. There always exists the

possibility that *over-analysis can lead to paralysis* when musicians think too much about their playing. I can attest that this is true due to my own experiences with the over-analysis of my own performance. Clark and Harrelson (2002) emphasized the purpose of cognitive models of instruction as processes that require "learners to actively construct new knowledge" but also that the "instruction should help the learner to minimize cognitive load in order to use the limited resources of working memory most effectively" (p. 3). If young musicians are thinking too much about what they are doing, rather than minimizing the cognitive load, the opposite may occur. Sternberg (1998) warned,

> When functioning is automatic, metacognitive activity can actually hamper functioning. For example, many tennis players have had the experience of finding that when they think too much or too deliberately about what they are doing, the quality of their playing declines (p. 129).

There also exists the challenge of changing the culture of music assessment when students have become used to being rewarded for "passive and rather mindless learning" (Sternberg, 1998, p. 129) or the inclusion of non-musical criteria (Wesolowski, 2012) that can inflate grades. In these situations, students may actually resist the inclusion of metacognition-building processes regardless of how beneficial they may be (Sternberg, 1998).

Potential Benefits

Though caution must be kept in mind when establishing a metacognitive assessment model for instrumental music, the potential benefits that such practices can produce out-weigh the risks. Hewitt (2001) claimed that students who are musically independent could better participate in the decision-making processes that take place in

what will become more efficient rehearsals as mistakes are corrected and improvements are made individually (p. 308).

A greater understanding and ability to use various strategies that increase performance will make practice more enjoyable and result in "musical development and satisfaction" (Pitts & Davidson, 2000, p. 53). Metacognitive processes and skills (reflection, self-assessment, goal setting, and feedback) can also help students make connections between how various strategies affect their progress (Bathgate, Sims-Knight, & Schunn, 2011), all the while providing them with the ability to become independent learners who continue to grow (Benton, 2013). As metacognition develops, students become more adept at using musical terminology and addressing the various musical categories more specifically in their reflections and self-assessments whether spoken or written (Benton, 2013). In other words, their musical literacy becomes evident.

However it is also worth remembering that "what matters is not so much what strategies students use … but rather, their knowing when to use these strategies, how to coordinate between strategies, and having a number of different strategies available" (Sternberg, 1998, p. 128). This is potentially the most positive result of designing metacognitive assessment practices within instrumental music assessment models: the maturation of student musicians to the point where they can solve performance challenges on their own for the good of the ensembles they are in, and for their own satisfaction and the enjoyment that making music brings to their lives.

Method

The assessment model I am proposing goes beyond a basic *first-order* change where the assessment practice is altered "to make what already exists more efficient and

more effective, without disturbing the basic organizational features, without substantially altering the ways in which adults and children perform their roles" (Goodman, 1995, p. 1). Traditionally, instrumental music assessment has featured grades that may or may not include performance and music theory assessments, participation, and recorded quantitative practice minutes. Weightings for these categories vary greatly from program to program. Performance assessments are often assigned a grade with or without a rubric and there is very little written feedback given to students outside of report card comments. If the intent of the model were to simply increase the amount of feedback given, then it would clearly fit into a first-order change classification. However, due to the scope of the changes within the proposed model, where student environment, reflection, specific feedback, individualized performance assessment, and goal setting play key roles in the development of processes such as student metacognition and performance ability, a metacognitive instrumental assessment model follows a radically different assessment method than traditional band assessment practices. Goodman (1995) defines second-order change as the alteration of "fundamental ways in which organizations are put together...[and] introduce new goals, structures and roles that transform familiar ways of doing things into new ways of solving persistent problems" (p. 1). In my context, the problem pertains to helping all student progress to higher levels of performance and musicianship. To do this, I believe instrumental music teachers need to shift towards a more qualitative and metacognitive assessment practice that is radically different than what they are used to.

Identifying the level of my students' metacognition surrounding practicing and helping them increase their skills and processes should empower them to focus their

practicing upon goals that positively impact their technical development. When this occurs, enjoyment of music should also increase and affect their overall experience in music ensemble participation.

Constructs to Be Assessed

Having established the need for a new type of instrumental assessment model that will produce valid, reliable, and fair results through practices of assessment for, as, and of learning, it is important to define which constructs need to be assessed to produce students that are self-reliant goal-setters. Though constructs other than the ones I will present may also be of importance, I believe the ones I am including will help students to better analyze their own technique and musicianship, as well as discover solutions to difficulties they encounter. These constructs will help identify the information I need to aid students in their practicing and musical development. When this occurs, their enjoyment of making music may potentially increase and affect their overall experience in music ensemble participation throughout their lives. Four construct were designed for this assessment model:

1. What do students know regarding how to practice and about their technical and musical needs? (Metacognitive)
2. Which areas of instrumental performance must students specifically focus upon to develop their technical development? (Metacognitive/ Psychomotor)
3. To what extent are students achieving the intended learning outcomes? (Metacognitive/Psychomotor/Affective)
4. Are students in band more self-reliant and confidently able to set goals as their abilities develop? (Metacognitive/Affective)

The relationship that occurs between these four constructs is demonstrated through the following construct map, with the five main intended learning outcomes.

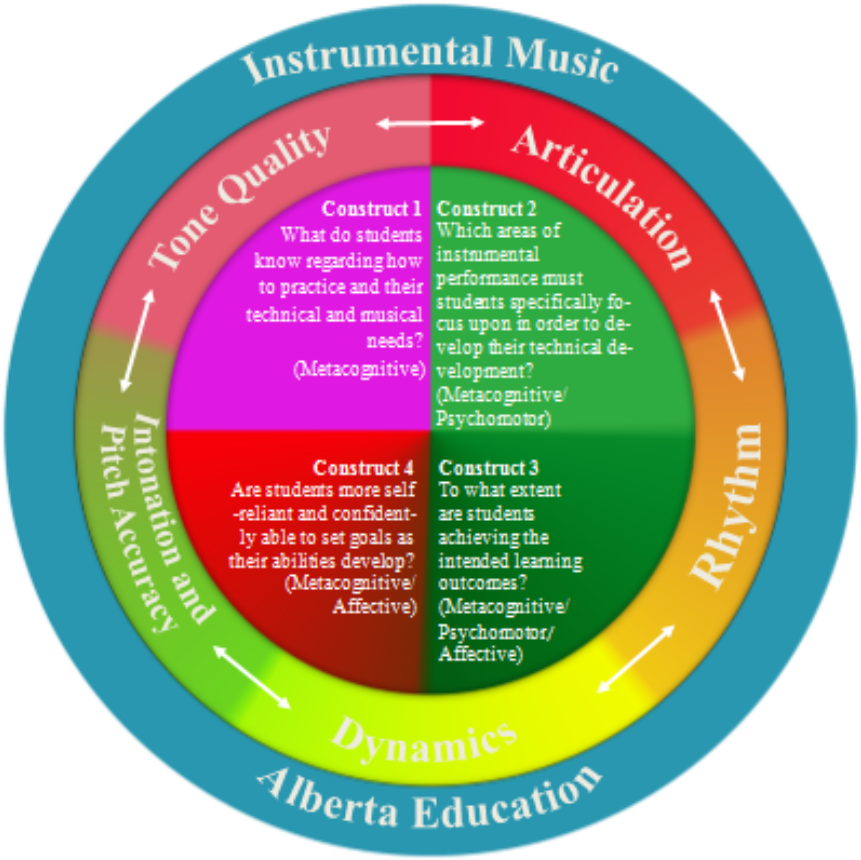


Figure 1. How the Constructs and the Learning Outcomes are Related

The central focus of Figure 1 is the Learning Outcomes (as derived from the *Alberta Instrumental 10-20-30 Program of Studies*) that will be assessed within this model. Tone Quality, articulation, intonation and pitch accuracy, dynamics, and rhythm (duration) are all listed within the Program of Studies as Specific Learning Expectations (Alberta Education, 1991). Metacognition is evident in all four constructs with the psychomotor and affective domains represented as well. The double-headed arrows demonstrate how all four constructs must work together in order to achieve success in the implementation

of the assessment model and to assist students in achieving proficiency of the learning outcomes.

Literature Support For the Constructs

Research indicates that the increase of metacognition within music practicing (construct one) is necessary for technical improvement (Bathgate, Sims-Knight, and Schunn, 2011; Benton, 2013; Pritchard, 2012). Another key component to improving practice metacognition involves goal-oriented practice (McPherson and Renwick, 2001) and being very clear of what one wants to accomplish (Wasiak, 2013).

Regarding constructs two and three and the development of technical and musical ability as a result of increased metacognition and reflective practices, researchers indicate that performance assessments and evaluations need to be done regularly to have an effect on technical development and reliability (Bathgate et al, 2011; Wasiak, 2013). Student responses to increased understanding of practice processes should be to develop specific elements of music that **"**include note accuracy, rhythm accuracy, tone, intonation, balance, blend, dynamics, expression, and other criteria" (Benton, 2013, p. 55). As students gain expertise in how and what to practice they will become more aware of what they are developing and the effect this has upon further practice and technical ability (Bathgate et al, 2011).

Perhaps most difficult to ascertain is construct four that aims to identify whether increased metacognition, technical, and musical performance increases self-efficacy, agency, and a student's ability to set future goals for themselves. Some research found that even with increased metacognition there did not exist an increase in self-efficacy (Bathgate et al, 2011) or that the level of increased technical ability was based upon

extrinsic and intrinsic reasons for taking band in the first place (McPherson and Renwick, 2001). It is important to keep Sternberg's (1998) warning in mind that due to years of reward for "passive and rather mindless learning" (p. 129); students should not be expected to readily embrace an emphasis on increased metacognition. The end result of increased metacognitive approaches to practicing and its affect upon technical and musical development will also depend upon student personalities and learning styles (Clark and Harrelson, 2002). It will also be determined by their bio-ecological context such as their circumstances at home or even the ability to transport their instruments to and from school.

Keeping all this in mind, it is also necessary to look at how the constructs as demonstrated throughout the specific tools created for this assessment model (see Appendix B) avoid or limit issues of validity and reliability.

Construct Irrelevant Variance and Its Impact

The first assessment tool assesses contextual variables (socio-economic) and this tool is necessary to limit construct irrelevant variance within the study. Should students' various living situations prevent them from practicing or limit how much practice they can accomplish, being unaware of these issues would affect the overall reliability of the information I gain from the study.

The reflective process should also provide information about students' reasons for taking band. For some it is a love of music and participation in musical ensembles (intrinsic) while for others their reasons are primarily extrinsic in that they may simply have friends in band or want to be part of a musical experience (McPherson & Renwick,

2001). The reflective tools (two and four) also should give a more complete picture of each individual student within the band. Clark and Harrelson (2002) claimed

> Of course, we need to remember that metacognition interacts with many other aspects of the student: abilities, personality, learning styles, and so forth. A teacher's understanding of metacognition will probably be most useful if it is complemented by an understanding of these other aspects of students' functioning, and of how they interact with metacognition (p. 128).

Avoiding Construct Underrepresentation

I believe that the assessment tools I have created for this research will enable me to avoid construct underrepresentation. The first assessment tool gives me information regarding students' life outside of school and any obstacles that may get in the way of practicing that as a school we will help them find solutions to.

The second assessment tool is directly aligned with construct one which focuses on metacognitive development surrounding practice. The reflection is designed to have students reflect on what they practiced as well as what successes and challenges they encountered as they practiced their assigned scales and repertoire. Students are then asked to reflect on their strengths and weaknesses technically in the five areas on which their summative performance assessments will be graded. They are to also include their own ideas for how to address why they may succeed in some areas and struggle in others. Finally, students are asked to explain what they feel their needs are in terms of metacognition and technique. This helps guide me towards what I need to teach and focus upon in the following two weeks. I also believe that the feedback tool I have included for

this section is a guide for helping students focus even more upon how to improve their technique and knowledge.

The third assessment tool is a summative performance assessment that focuses on student technical development in five areas that are specifically outlined in the construct and the curriculum: tone quality, pitch accuracy (on scales, arpeggios, and repertoire), dynamics, articulation, and rhythm. These five areas are also included in the biweekly reflections as areas for students to focus their technical development on. In this way, the summative assessment aligns directly with construct two and builds upon the reflective thinking and metacognition developed in construct one.

The fourth and final assessment tool is a reflection that encourages students to look back on what they have learned not just musically, but also in a metacognitive sense throughout the term. It also points them forward, asking them to reflect on what they see their future areas of practice need to be. In this way, the assessment tool is true to construct three as it assesses not only what they have learned and experienced but also looks towards their future participation in band. In many ways, this reflection makes everything come full circle, or as Benton (2013) wrote, “it is through reflection before, during, and after a learning task that the learner exercises self-awareness” (p. 53).

I believe that all three constructs are well represented in the four assessment tools I have designed for my research into how an increase in student metacognition surrounding practice habits affects technical development and the overall musical experience in band.

Content Underrepresentation

As can be seen above, there exists a considerable amount of ***content underrepresentation*** within the curriculum regarding Constructs 1 (Metacognitive) and 3 (Affective). But that doesn't mean it doesn't need to be measured. As Benton (2013) indicated,

> Developing metacognition can help music learners to become more objective about their overall musicianship. If learners lack metacognition - that is, if learners are not able 'to think about musical-thinking' - their musicianship will plateau and fail to progress (p. 53).

As the constructs become the lens through which I view the curriculum, I will need to do a lot of formative assessment to help improve the performance assessments that are reflected in students' grades.

The Psychomotor portion of the curriculum is highly represented and this works well with my development of a performance assessment to demonstrate technical ability.

Possible Limitations

A more important assessment tool than is immediately evident in this process of increasing metacognition in music practicing is tool one, as it will indicate which students are able to practice versus those who have issues getting their instruments to the types of homes they are in. In this case, it will be difficult to accommodate living situations that make it nearly impossible to practice. While there are practice rooms attached to the music room, it is difficult to make students do their practicing after school when there are other co-curricular activities they wish to participate in.

Another limitation surrounds construct three as some students will not embrace the self-efficacy that increased metacognition and technical ability will give them. Students have various reasons for being in band programs that do not necessarily involve musical excellence. As has been found in various other studies, "contrary to predictions, self-efficacy did not change specifically following metacognitive teaching, nor did it change in general with instruction" (Bathgate, Sims-Knight, & Schunn, 2011, p. 5).

I believe other limitations will also arise as the tools are put into practice as well that are not foreseen at this point. In my practice and school demographic, this will be an entirely new direction of learning in the band program. But in spite of the challenges, the content underrepresentation, the unforeseen limitations, and construct irrelevant variance that may become more clear while I am putting these tools into practice, they are worth doing. It is my belief that the usage of this assessment model will result in assessment results that are more valid, reliable, and fair to all students in my band program. They will give me a much clearer picture of students' potential bio-ecological challenges, what they know about their learning, what they are able to do, and hopefully give them a greater sense of enjoyment in the music we create.

Conclusion

The research and design that has gone into the creation of this instrumental music assessment model demonstrates a tremendous shift in my thinking over the last several years. The concept of using assessment as a tool for increasing students' overall metacognition never occurred to me before I began my Master of Education cohort nearly three years ago. With each passing term, I have experienced an intense increase in my understanding of the complexities of assessment and just how important, and perhaps too

often underemphasized, assessment is. I always sensed it was much more the curriculum, and how it was taught, to be the main focus both within schools and the teaching profession; outcomes had to be completed and grades needed reporting, but rich assessment and feedback that impacts how a student learns and transfers understanding to other areas of study did not seem as important. With the degree now nearing completion, I have come to acutely recognize the need for assessment to become a focus of future changes to education rather than an afterthought.

How this has become entrenched in my vision for (music) education lies in how my theory of assessment has evolved from my study of *assessment as research*. This resulted particularly through the bio-ecological assessment model from which assessment as research flows, the increase in validity, reliability, and fairness as a result of such a model, and how it has laid the foundation for changes in not only my instrumental music assessment but in all subjects that I teach.

While reading Slomp's (2012) article on the challenges involved in creating an assessment model for writing ability, I recognized a parallel within my band classroom. Slomp (2012) looked at how to improve assessment of writing ability and supports making it a process where the scope of what is being assessed needs a shift "from assessing products (the artifacts that point to writing ability) to tracing the trajectory of one's development over time and across contexts" (p. 82). Within this statement I found a similarity to my own musical assessment as research in the sense that I wanted to shift the focus of practicing for band classes away from the quantitative aspect to include a broader scope of what impact qualitative practicing may have on technical ability and musicianship.

Metacognition development is central to both topics. As Slomp (2012) suggests, reflection letters play a large part in portfolio development as they give students the opportunity to explore and give evidence of development (p.88). Similarly, my model involves students reflecting on what they are practicing, how they are practicing, and identify their perceived strengths and weaknesses to begin to develop metacognitive processes surrounding practicing. In terms of writing, Wardle and Roozen (2012) described this as gathering "data addressing students' wide range of experiences … and the impact those experiences have on their abilities to accomplish academic tasks" (p. 107). It is therefore also necessary to take into account students' experiences in and out of school and the effect these may have upon their development. The assessment tools I have created to help develop and measure metacognition in music practice and the affect this may potentially have on technical and musical development hinge upon these same characteristics. By taking into account contextual variables such as living situations, past parental musical involvement, first and second languages, and cultural background, I have designed an initial assessment tool that investigates which life conditions outside of school could have an effect on students' musical development within.

The remaining assessment tools I have created potentially help create more meaningful practice and performance experiences for students all the while being examples of assessment as, of, and for learning. These tools are dependent upon qualitative feedback including teacher instructed strategies to utilize during independent practice and ensemble rehearsal. Students also need to reflect upon their practicing and performance, as well as set goals for further development. Modeling by the teacher, recordings, or live performances of tone, pitch accuracy, articulation, dynamic changes

and rhythm are also necessary in order to help students compare where their level of development lies in relation to the goals they wish to attain and musicians beyond the boundaries of their immediate musical environment. By routinely reflecting on their practice processes and technical development, the end result may be a richer and deeper knowledge about making quality music.

The growth students in band can experience through the processes I have created potentially gives those who struggle a greater sense of musical growth and a belief in their ability to contribute to the ensemble as a whole while also challenging advanced players to develop beyond their current ability and schooling level and into the broader musical community. Wardle and Roozen (2012) explained students' growth in writing as a "trajectory from the periphery toward some more central location … through an expanding awareness of the community's beliefs, values, and interests" (p. 108). Comparable to Wardle and Roozen's (2012) view of the literary community, the full use of my assessment tools may also enable students to expand their musical participation into the larger music community beyond the school context.

Another key area of importance that my instrumental music assessment addresses is in the area of validity and reliability. Throughout the research and design process, I believe I have stayed true to Heritage's (2013) fundamental principles of assessment, namely that "(1) the assessment measures [what] it intends to measure and (2) it provides sound evidence for specific decision-making purposes" (p. 185). The practice reflections and feedback tools meet both of these criteria by providing me with specific information about students' perceptions and abilities and will guide my practice. I believe I have achieved content relevance in that the tools will "be meaningful and situated in an

authentic context" (Heritage, 2013, p. 185). They are also aligned directly to the curriculum though a certain degree of content underrepresentation exists in my first and third constructs. As the evidence I am gathering is aligned to the constructs, I believe I have also avoided construct irrelevant variance and underrepresentation.

Further evidence of validity exists in the use of portfolios for students to keep their reflections, performance test self-assessments and rubrics for use in their end-of-term reflections. Audio recordings of performance tests will be archived throughout the year and these also are available to demonstrate learning and growth. Black (2013) indicated that validity is established in "a system that uses the range of different types" (p. 175) of assessments and collected in portfolios as my assessment model accomplishes.

These tools and constructs also increase the reliability of the knowledge and information I will gain regarding my students' habits and abilities. By providing multiple ways and opportunities to demonstrate their learning (Wasiak, 2013; Parkes, 2013) I have increased the reliability of my judgments of students' learning. It also creates a music culture where "each student is actively involved in the learning dialogue" (Black, 2013, p. 169).

Finally, my assessment as research project also ensures that fairness plays a role in the assessment tools created to explore the constructs. The questionnaire that will be initially completed at the beginning of the school year is an example of how sociocultural issues (Tierney, 2013) will be assessed and from these, supports can be created to assist various students to establish regular practicing. Fairness is enhanced through the change in power dynamics that will occur within my classroom environment. Though grades will still be determined by my assessment of performance tests, students will have more

agency in their assessment processes that help them develop skills necessary for high achievement. Their reflections and self-assessments will have a far larger impact on what I plan and how I assess to meet their individual needs throughout the year. The inclusion of this type of differentiation will create a greater level of fairness for students in my band classroom than has ever existed before.

My hope is that what I have accomplished in my degree and in the creation of this assessment resource will play out in such a way that a maximum amount of students benefit from the assessment tools I have designed. I also recognize that potential changes such as these would take time to become entrenched in the mindset of programs, schools, students and their parents, and that the increased amount of work involved in such a model may not be welcomed by all, even including educators. However the research and design that have gone into the creation of this assessment model has solidified for me what is most important: that what students are learning, and most importantly, how this is being assessed, has farther reaching consequences than their immediate classroom experience and grades. The resulting metacognitive development has the potential to be transferred beyond schooling to all of their endeavors, and in so doing, aid them throughout their lives.

Appendices

Appendix A

Intended Learning Outcomes

General Learner Expectations
Performing • To discover, develop and evaluate their talents and abilities in musical performance through establishing, extending and reinforcing correct technical skills. • To recognize, interpret and perform rhythm, melody, harmony, form and expression as they appear in musical notation. • To develop and perform a repertoire of quality literature. **Listening** • To develop the ability to make intellectual and aesthetic judgments based on critical listening and analysis.
Constructs Guiding the Assessment of the Specific Learner Expectations
1. What do students know regarding how to practice and about their technical and musical needs? (Metacognitive) 2. Which areas of instrumental performance must students specifically focus upon to develop their technical development? (Metacognitive/ Psychomotor) 3. To what extent are students achieving the intended learning outcomes? (Metacognitive/Psychomotor) 4. Are students in band more self-reliant and confidently able to set goals as their abilities develop? (Metacognitive/Affective)
Specific Learner Expectations
Technical/Theoretical Skills (TS) *TS.6 - Exhibit positive musical attitude characterized by:* Efficient practice habits **Aural Skills (AS)** *AS.3 - Recognize and perform accurately in the keys of: CONCERT ... A flat, E flat, B flat, F, C and c minor* **Technical/Theoretical Skills (TS)** *TS.3 - Produce a characteristic **tone** based on acceptable:* • Embouchure formation • Breath support • Aural concept of the characteristic tone • Initiation of the tone • Release of the tone

Technique — percussion only (T-P)
T-P.1 - On mallet instruments:
• Study the same scales and arpeggios as the wind players and demonstrate proper selection of mallets for various styles of music

T-P.2 - On snare drum:
Continue to develop single stroke, multiple-bounce, flam and paradiddle techniques
Begin tuning snare and batter heads

T-P.3 - On tympani:
• Continue to develop tuning (P4 and P5 above a given pitch), rolling, cross-sticking and dampening techniques

T-P.4 - On bass drum et al, the student will:
• Begin dampening, muting and rolling on various instruments and tuning both bass drum heads

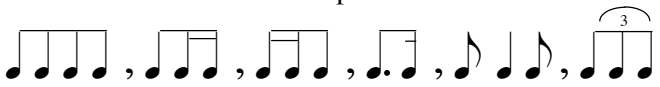
Pitch (P)
P.2 - Organize and perform pitches of Level II ranges in major scales, arpeggios and thirds in:
- CONCERT D flat, A flat, E flat, B flat, F, C, [and c minor] *Emphasis mine*
- Chromatic scales in E flat, B flat

Dynamics (D)
D.2 – Perform:
- Three dynamic levels demonstrating crescendo and decrescendo

Articulation (A)
A.1 - Recognize and perform:
- Legato
- Staccato
- Accents
- Articulation patterns

Duration (Rhythm) – (D/R)
D/R.1 - Recognize and interpret note values and rests of the following durations:

simple time



compound time

hemiola effect

This chart lists the Intended Learner Outcomes, both General and Specific, as found in the Alberta Instrumental Music 10-20-30 program of studies. Though this is a Senior High document, Level I, II, and III, middle/junior high band Specific Learner Expectations are all listed in detail within the document. Abbreviations in brackets behind the expectations, as well as the individual outcomes (number following the abbreviation) are my creation simply for clarity as the Alberta Program of Studies only uses bullets. The Constructs are listed immediately following the General Expectations to demonstrate how they give direction to the assessment and evaluation of the Specific Expectations, listed here in content detail.

Appendix B

Project Assessment Tools

Assessment Tool #1 – Contextual Variables Questionnaire

This tool is a survey of contextual variables such as socio-economic background that may affect practicing. It will give me insights into the stability of the constructs of my data across social, cultural, or racial contexts.

Rationale

The greatest challenge to this assessment design will be in this area as my school has a number of socio-economic challenges. Due to economic challenges, some students struggle to find regular practice time due to the fact that they live in an apartment or townhouse rather than a detached home. Socially, I have a very high number of students in homes where parents are employed in lower paying jobs. Also, single-parent homes are quite common and this means that should a parent be working a job well into the evening, they are not home to supervise their child's band practicing.

A further issue to consider is our school's ever-increasing immigrant base. Due to band programs being rooted in a tradition stemming particularly from Europe, the United Kingdom, and the United States, new immigrant students from various parts of Asia and Africa are not necessarily taking band as an option in my school. It is a foreign concept to their parents, even if a student wishes to take the class. Communication issues regarding feedback will also cause a degree of construct instability as the reflective process involves much more language use than the former system of quantifying practice time over qualitative reflection.

This questionnaire will not be graded, but rather used as a preliminary, formative assessment tool that establishes the bio-ecology in which each student lives. Without it, the remaining assessment tools will not be as effective as a student who is unable to practice outside of school will be limited in regards to increasing their metacognition surrounding their own musical development. It is an assessment for learning as it establishes any barriers students are facing that must be addressed to allow them to practice and develop as musicians

Time Frame

This assessment tool will be given at the beginning of the course in September and to any student who may move into the school and take band partway through the year.

Name: _____ **Band (circle):** 6 7 8

Instructions:
For me to know your needs regarding to band class in general, and practice in particular, please fill out the following questionnaire. The answers to this are completely private. I will be the only one viewing them.

1. What instrument do you currently play in band? _____
2. Do you currently take a bus to school? (Circle one) Yes No
3. If not, do you walk or do you get a ride? _____
4. If you walk, how far are you walking to school and back? _____
5. Does your family live in an apartment or townhouse? (Circle one) Yes No
6. Did your parents/guardians play in band when they went to school? If yes, what instrument(s) did they play? _____
   _____
7. What language do you feel most comfortable speaking? _____
8. What language do your parents feel most comfortable speaking? _____
   _____
9. Did you take band because you want to or because your parents want you to? _____
   _____
   _____
10. What do you want to learn most in band this year? _____
    _____
11. What do you think your weaknesses may be in band? _____
    _____
12. What do you think your strengths may be in band? _____
    _____
13. How would you describe your homework habits? (Check one category)
    _____ Very Consistent (I complete all of my homework)
    _____ Consistent (I complete most of my homework)
    _____ Inconsistent (I complete roughly half of my homework)
    _____ Infrequent (I don't complete my homework very often)

Assessment Tool #2 – Monthly Reflection of Practice Habits

My second assessment tool will aid me in finding information regarding ***construct one:*** what do students know about how to practice and about their own instrumental performance needs? (Metacognition; assessment as Learning)

Rationale

This is the template for the practice reflection that every student, regardless of his or her technical ability, will complete.

Another reason I am incorporating a regular literacy component into the band program is that writing allows students to better organize their thoughts on practice and reflect upon how to improve the quality of their practicing. As Shuler (2011) indicates, "writing is one authentic way for students to demonstrate their ability to understand, analyze, and evaluate music; writing also provides a valid link between music class and the goals of local English language arts programs" (p. 11).

It will be used as a formative assessment only as it helps direct student learning and my knowledge of each student's strengths and weaknesses that is imperative to their technical development. Bathgate, Sims-Knight, and Schunn (2011) support this belief: "Although the importance and impact of frequent practice should not be underestimated, developing reflective awareness in relation to one's practice appears critical" (p. 1).

Method

Students will also be provided with audio links to pre-recorded exemplars on their instruments that demonstrate excellence in the areas of tone quality, pitch accuracy, dynamics, articulations, and rhythms. These will be linked off of the band website's Recordings tab and can be accessed during practice time as a guide. Modeling is an

important aspect of music, as students need guidance in regards to what, for example, solid tone quality is. Though there may be different types of modeling, Prichard, (2012) writes in regards to music "the most relevant modeling practices in this context are live and cognitive modeling. A live model is an in-person demonstration of a particular skill or behavior" (p. 4).

This guided reflection will be filled out and returned in a portfolio so that I can review what students have written and then plan performance assessments for the students that will target specific practice needs for their own development. One of the first, necessary, components of technical ability that students must become proficient with is pitch accuracy as exhibited in the curricular outcomes under *Pitch*. Students who struggle with pitch and key accuracy will be assessed more on scales and arpeggios until they become proficient. Students able to demonstrate consistent pitch accuracy (as is found in various keys and scales) will be assessed on the repertoire that is being studied or advanced exercises in the band method book.

All reflections will be kept in a portfolio that students may use at the end of each semester to complete assessment tool four.

Time Frame

Completed on the last Thursday of each month completed digitally and saved into a folder on our school server that I can access.

Name: _____ **Band (circle):** 6 7/8

Reflections on My Band Practicing

Instructions

Read each statement and then fill in the necessary information accurately to help me address how we will proceed in band class beginning next week.

1. During the last month I practiced the following items (check all that apply):
   a. _____ Exercises from Standard of Excellence
   b. _____ Scales
   c. _____ Repertoire
   d. _____ I did not practice (If you answer this question, please provide a brief, but concrete, reason as to *why* practicing was impossible for you to do for four weeks in the space provided.) _____
   _____
   _____

2. What do you feel ***your strongest performance areas*** currently are? Which are your weakest? Think about each Performance Technique and then decide if this is an area you are developing well in (Independent) or believe you need more information and assistance in order to develop (Need Help). Then check the column that applies to how you believe you are developing each technique.

Performance Technique:	Independent	Need Help
____ Tone Quality		
____ Intonation and Pitch Accuracy		
____ Dynamics		
____ Articulations		
____ Rhythm		

3. What did you feel you ***improved upon*** most during the last month? *Check all that may apply to you even if you do not think you have achieved mastery of them yet.* What were strategies that you used that helped develop these technical areas?

Technique I improved on:	Strategies I used included:
____ Tone Quality	
____ Intonation and Pitch Accuracy	
____ Dynamics	
____ Articulations	
____ Rhythm	

4. What do you believe you are ***struggling on the most*** regarding your technique? *Check all that may apply.* What are some strategies that you can use that will help develop these technical areas?

Technique I need to improve on:	**Strategies I can use include:**
____ Tone Quality	
____ Intonation and Pitch Accuracy	
____ Dynamics	
____ Articulations	
____ Rhythm	

5. What do you need me to give you more of in order to help you improve your technical development? _____

_____

_____

"Robotic correctness is the last thing judges want to see or hear"
William Westney

Assessment Tool #3 – Performance Assessment

The third assessment tool will provide information to me about ***construct two:*** which areas of instrumental performance students must focus upon that will develop their technical development. (Kinesthetic/Psychomotor; assessment for and of learning)

Rationale

This tool is intended as a summative evaluation where students will demonstrate their technical skills on differentiated scales and sections of repertoire. The information I receive from the reflections will help me decide which scales or musical selections to assess for each student. Students who are still in stages where technical problems such as pitch accuracy and the identification of key signatures give them difficulty will be assessed primarily on creating a controlled, full tone on scales and arpeggios that will help them with their dexterity on the instrument. Students who do not struggle on these items will be assessed on higher-level musicianship skills such as dynamics and articulations (higher level musicianship skills) as well as more complex rhythmic figures, all of which are to be taken from the repertoire being studied. As students begin to master these, various articulations and dynamics will be added to the scales before they move into being assessed on musical passages that contain all five areas of the assessment at once. Though four of the five specific curricular outcomes within the rubric receive up to four points each, the outcome of Intonation and Pitch Accuracy is double weighted due to my experience that particularly early on in a students' band experience, these prove most problematic. As a result, the focus for most students is upon playing all the pitches accurately and I believe this needs to be emphasized before the other outcomes can even be addressed.

Method

As time becomes a factor with large bands, I will need to have two students test in different rooms simultaneously with recording software on school laptops. Students will also be provided with the audio links to pre-recorded exemplars that have been made available for them to use at home. These can be used once again as a model if they need to listen one more time.

When students are satisfied with their performance, they will listen to their test and complete their own rubric that will later be compared to the one I fill out for them. While my grade will stand as the summative evidence, they may use the two to compare where they rate themselves and where I do. (I suspect that in many cases students may be harder on themselves than I am as I have witnessed this before.) I will keep copies of these in their portfolio for further analysis and justification of choices in the fourth assessment tool.

Time Frame

Every six weeks during each half term Exploratory, students will do a recorded Performance Assessment from which they will receive feedback from me in the form of a rubric with comments included at the end. Wasiak (2013) makes the following claim regarding students' demonstration of ability: "Reliability is increased when assessments are done on an ongoing basis using a variety of measures throughout the entire learning process. Allowing students to demonstrate their learning frequently and in multiple ways provides a range of information about student learning" (p. 143) Too often in my practice I have found that when performances are looming, performance assessment goes out the

window in favour of full rehearsals. But with only two students out at time doing performance testing, this will not negatively impact full rehearsals.

Band Performance Assessment Rubric

Curricular Outcomes (Abbreviations are based upon Figure 2 found in Appendix A)	**4**	**3**	**2**	**1**
Tone Quality (TS. 3)	Exceptional, full and controlled sound	Excellent sound that is full and controlled most of the time	Acceptable tone, but lacks focus and control	Unacceptable tone without focus and control.
Articulation (A.1)	Articulation is clear with distinct differences in type of accent	Articulation is very good with accent differences demonstrated most of the time	Acceptable articulation but accents do not vary enough by type	Unacceptable articulation with no differences in accents for this level of band
Intonation and Pitch Accuracy X2 (P.2, AS.3)	All notes accurately played and in the centre of the pitch	Most notes are accurately played with 1 – 2 mistakes; intonation is centered most of the time	Notes are played accurately with 3-4 mistakes made; intonation is only consistent on half of the notes	Notes are not played accurately with 5 or more mistakes made; intonation is very inconsistent
Dynamics D.2)	All dynamic changes are adhered to with audible changes in volume	Most dynamic changes are adhered to, with audible changes in volume	Some dynamics are observed but there is not enough change in volume	All dynamics sound the same with no change in volume
Rhythm (D/R.1)	All rhythms are accurately played with a consistent, steady pulse	Most rhythms are accurately played with a mainly steady pulse and only 1-2 mistakes or hesitations	Rhythms are accurate with 3-4 mistakes made and with an unsteady pulse	Rhythms are very inaccurate and the pulse is not steady
TOTAL: /24				

Name: *Example* **Band:** 6 **7/8**

Band Performance Assessment Feedback

Exercise(s):
Scale(s):
Repertoire: Darklands March – Standridge

4					
3.5					
3					
2.5					
2					
1.5					
1					
Score	**Tone Quality**	**Articulation**	**Intonation and Pitch Accuracy**	**Dynamics**	**Rhythm**

Legend: Green means you are doing well in an area; **Yellow** indicates areas you are developing in but still need to pay attention to; **Red** areas reflect a need to focus upon that particular technique

Total Score 18.5 /24

Strengths:

Excellent work overall! You are developing consistently in all areas.

- Your tone is developing very well and it is consistently full and supported with air.
- Excellent intonation and pitch accuracy. All the notes were played correctly and in the centre of the pitch.
- Rhythms were performed well and in time.

Needed Growth and Strategies:

- Take in even more air to support the tone more fully
- Rhythm is good but watch that you place the sixteenth note in the patterns exactly before the next beat.
- Articulation: there are very few slurs in this piece but at this point you are slurring a great deal when changing notes. Think 'ti' with your tongue to create a faster, crisper, articulation
- Dynamics: you are playing everything the same volume level. Practice at different dynamic levels on your scales and exercises as well to gain control over these changes. Air support and volume of air will also play a huge part in your progress.

Assessment Tool #4 – Term/Year-Ending Reflection

The final assessment as research tool I will employ will be a term ending reflection that will give me information on ***construct three***: are students in band more confident as their abilities develop? (Affective; assessment as and for learning)

Rationale

Reflecting upon the learning done throughout the term will give students the opportunity to look back at their development and, in a sense, celebrate their progress. It will also give them time to think about what they learned about the need for metacognition in their practice; they need to know not just how to practice but why as well. I suspect many students will recognize their growth in this area, even if they are not the most developed technical players. Research suggests that as metacognition develops, even "some tertiary students suggested they now understood the need to plan practice and adjust strategies to match the technical challenges of their repertoire" (StGeorge et al, 2012, p. 250).

Method

Students will also be required to justify their responses through evidence that they will find in their portfolios. They may use anything from their reflections and performance tests that substantiate their claims.

This will also be a time of goal setting for future terms so that progress is made throughout the year. It is not enough to know how and why to practice; students must also be able to transfer the skills they've developed and shape them. "Strategy knowledge alone is not enough for effective learning. An individual has to learn how to use these strategies in flexible and changing ways" (StGeorge et al, 2012, p. 253).

Time Frame

At the end of each term before the report card is issued, and also at the end of the school year to aid students in setting goals for the following year in band.

Name: _____ **Band (circle):** 6 7/8

Instructions
Think back to the beginning of the term and reflect upon your strengths and weaknesses at the time. Have your strengths stayed the same? Increased? Decreased? What about your weaknesses? Using your portfolio, what evidence can you give me to justify your self-assessment? In the space provided, share your thoughts on the processes we undertook to create better practice knowledge and results.

1. I believe my areas of ***strength*** at the beginning of the term were:

_____

_____

_____

1a. Have they stayed the same, increased, or decreased? Why do you think this occurred?

_____

_____

_____

1b. What evidence from your audio-recorded performance assessments can you give to justify your self-rating? _____

_____

_____

2. I believe my areas of ***weakness*** at the beginning of the term were:

_____

_____

_____

2a. Have they stayed the same, increased, or decreased?

_____

_____

_____

2b. What evidence from your audio-recorded performance assessments can you give to justify your self-rating? _____

_____

_____

3. To develop my technical ability next term, I will need to continue focusing upon:

_____

_____

_____

4. I believe that in comparison to the beginning of the term, I … (circle one)
    a. Better understand how and what to practice
    b. Still am uncertain of how and what to practice

Explain why you choose what you did. Include any help you may yet need in order to better understand the process.

5. How has reflecting on how and what you are practicing affected your band experience? When answering this, please explain what has been positive or negative for you this term. No one will see this but me and I am using this knowledge to better meet your needs as we move forward through the school year.

"Music gives a soul to the universe, wings to the mind, flight to the imagination and life to everything."
Plato (c. 427? – 347? B.C.

Appendix C

Grading Breakdown of Randomly Chosen Schools

This list of the ten randomly chosen schools via the Internet was used to gather evidence of their practice minute assessment and grading procedures. Included are school name, location (at least by country) and the weighted grading procedures for practice logs, performance tests, as well as evidence of metacognition built into the practice log process.

Chenery Bands – United States
http://chenerybands.weebly.com/band-practice-journal.html
- Websites based but lots of space for reflection of processes. Minutes not emphasized on this journal
- Grades are performance based

Colchester Middle School Bands – United States
http://cmsmusicdepartment.weebly.com/band-practice-log.html
- Basic practice minutes journal – minutes only
- 10% for practicing
- 0% for performance tests (rest for participation and preparation)

Hayes Middle School Band – United States
https://sites.google.com/site/hayesband/documents/7th-grade-practice-records-1
- 25% for PS - students have to indicate what they practiced and what techniques they used from a humungous list of coded techniques. Two short questions at the end regarding successes and struggles
- 25% for performance tests

Harold T. Barret School – Nova Scotia, Canada
http://www.google.ca/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CB4QFjAA&url=http%3A%2F%2Fhtbarrett.ednet.ns.ca%2Fband%2FPractice%2520Logs%2FHTB%2520Band%2520Handbook.doc&ei=q6_JU9eeC4qCogTSooCYCw&usg=AFQjCNFBxhStn6mpVF8w2CCFZym5mQoprA&bvm=bv.71198958,d.cGU
- 30% for Practice sheets with grades assigned by chart according to hours in a month.
- 25% only for performance tests.

Long Middle School Bands – United States
www.chesterfield.k12.sc.us/.../Long%20**Middle**%20**School**%20**Band**%20.

- Minutes required
- 40% for practice
- 30% for performance tests

Needwood Middle School Bands – United States
www.glynn.k12.ga.us/~jlanier/Needwood%20**Band**%20Handbook.doc

- Required minutes of practice each week
- Students fill in what they practiced but no reflection on what they did or why
- 40% for practice minutes
- 30% for performance tests

Rotolo Middle School Bands – United States
http://rmsband.edublogs.org

- Online reflective journal
- 8 points per week for full journals but no indication on handbook of where it fits on grading – roughly 20%?

St. Croix Falls, WI – United States
https://sites.google.com/a/scfschools.com/middle-school-band/6th-grade-practice-log

- Minutes record with a general description box to describe practice (general with very little guidance)
- 20% of grade
- 20% performance tests

Shelbyville Middle School Bands – United States
http://sms.shelbyvillebands.com/online-practice-journal.html

- 25% for practice minutes - online reporting with a lot of space to reflect on practice how and why
- 25% for performance tests
- Audio video lessons available to help guide

Sun Valley Middle School Bands – United States
https://docs.google.com/file/d/0B0VZYr20kqV8bERFTlFrNjZGU2s/edit?pli=1

- Minutes only
- 20& of grade
- 40% for performance tests

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