Perspectives of Criteria Based Assessment in the International Baccalaureate's Middle Years Programme

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Executive Summary

Introduction

There is growing acknowledgement that assessment in the mainstream educational system requires change in order to better meet the needs of the 21st century learner. Today, many schools are moving away from the traditional model of norms-referenced grading standards to a system of authentic assessment, where learning objectives are standardized and active student involvement plays an important role in the assessment process (Wiggins, 1998). Assessment is no longer seen as a method of 'auditing' student achievement, but as an integral part of the learning process.

As schools move away from the system of norms-referenced grading, many are implementing the criteria-based assessment model, where assessment is based upon pre-established learning objectives and student achievement is determined by the success in meeting program objectives. Instead of ranking student achievement, the criteria-based assessment model offers qualitative descriptors indicating the level of achievement of the student in meeting its objectives for learning. The criteria based assessment model requires greater student involvement, with the intention of developing student processes in critical thinking, metacognition, and reflection. Essential to the success of a criteria based assessment model is the idea that students deserve to have 'access' to criteria and standards for the learning they must master (Wiggins, 1998). When successfully articulated, all members of the learning community know the objectives and expectations for learning and what is required to be successful at each level of the program.

Assessment in the International Baccalaureate's Middle Years Programme (MYP) follows a criteria-related assessment model, meaning that the program's learning objectives are directly aligned with the program's criteria for assessment. In defining its assessment scheme, the IB indicates the importance of student involvement in the assessment process. Specifically, the IB requires schools to clarify the expectations for learning so that students may actively participate in the assessment process (*From Principles to Practice,* 2008). The MYP's assessment scheme is intentionally designed to allow for student self-assessment, reflection, metacognition and the development of Approaches to Learning skills. The IB emphasizes that careful articulation of program learning objectives is critical to the success of the criteria-related assessment model used in the MYP.

Theoretical Framework - Educative Assessment

The MYP's assessment scheme was developed in line with the theoretical framework of educative assessment, as described by educator Grant Wiggins. Educative assessment views assessment as an integral part of the educational process, where students receive continual feedback, are given the tools to accurately self-assess their work, and the objectives and standards for learning are spelled out and are clearly articulated to all members of the learning community; students, teachers, and parents (Wiggins, 1998). Moreover, educative assessment requires active student engagement in the assessment

process, which is the foundation for the development of metacognition, reflection, and critical thinking. To assure this takes place, the clarification and careful articulation of criteria is essential for student achievement of program objectives in a criteria-related assessment program (Saddler, 1983).

The benefits of student involvement in the assessment process have been widely acknowledged. Research in assessment strongly supports that the validity and reliability of assessment is greatly increased when all members of the learning community are involved (WNCP, 2004). Furthermore, greater student access and teacher articulation of learning objectives has been shown to generate greater success in learning (Sadler, 2005). When students know what is expected of them, what the goals for learning are, and what the purpose of assessment is, they have a greater opportunity to prepare by identifying their strengths and areas for improvement in the learning process (Bargainnier, 2003; Wiggins, 1998).

The IB clearly indicates that the criterion-related assessment model implemented in the MYP requires students to have access to the learning objectives for each subject group (*From Principles to Practice,* 2008). While access is a broad term, for the purpose of this report, I refer to access as the articulation, or the level of frequency and quality in which program objectives and assessment criteria are communicated to members of the learning community, primarily students and parents. Essential to the notion of access is that students are informed about the criteria by which judgments are made about the quality of their work (Sadler, 2005). As Wiggins argues through his model of educative assessment*,* in order to effectively learn*,* students need "a complete demystification of the standards and performances of test tasks against which they will be evaluated" (Wiggins, 1998, p.14). Knowing the specific objectives for learning and the criteria for assessment enables students to prepare, self evaluate, self-adjust, and reflect; fundamental requisites of learning in a system of educative assessment (Bargainnier, 2003; Davies and Le Mahieu, 2003; Sadler, 2005; Wiggins, 1998). In educative assessment, learning objectives are articulated to students before, during, and after assessment.

For successful articulation of learning objectives to take place in the MYP, the IB specifically requires that schools clarify (MYP: From Principles into Practice, 2008):

- what is being assessed
- the criteria for achievement
- the method by which all assessments will be made

Methodology

This study intends to assess how the implementation of MYP subject criteria has affected the overall understanding, articulation and achievement of program learning objectives in two MYP schools. The goal is to share perspectives in the implementation of one system of educative assessment, the IB's MYP criteria-related assessment

model, in order to better understand the challenges, difficulties and successes that educators face in their implementation of a new assessment model.

The research was inspired by both challenges faced by the researcher, a teacher and coordinator in the MYP, and by research in higher education which has shown that despite the potential for greater student involvement that criteria based assessment programs offer, "the fundamental judgments teachers make about the quality of student work remain subjective and substantially hidden from students' view" (Saddler, 2005, 175). This report aims to explore the nature of subjectivity of the MYP's criteria-related assessment model and to learn if students are more actively engaged in the assessment sdprocess when criteria based assessment is effectively articulated. Further, to learn if this allows for greater student achievement, reflection, and processes of metacognition.

Research questions were designed to assess community understanding of learning objectives, variables that affect articulation of program learning objectives and the benefits of effective articulation of learning objectives in the MYP's criteria-related assessment model. The primary question that guides this research is:

- What are the benefits and challenges of successfully articulating program-learning objectives in a criteria related assessment program?

To answer this question, I researched the following questions:

- What is the level of understanding among students and teachers of the program learning objectives in the two school communities?
- How are learning objectives at the two schools articulated and what are the variables that lead to effective articulation?
- What are the benefits of successfully articulating the learning objectives of a program?

The research for this report was conducted in two MYP IB World Schools. Both schools were independent schools with reputable reputations for student achievement in their respective regions. The two sample schools used for this study were chosen for purposes of access and familiarity, as the researcher had worked as both a coordinator and teacher at both, assisting with access to faculty, students, and curriculum documents. Additionally, having a familiarity with both school communities allowed for greater participation and trust between the researcher and the participants. However it is important to consider the limitations of the sampling method used for the research design of this report, as the practices implemented by both schools may not be representative of all schools in the IB community (McMillan, 1996). For purposes of privacy and confidentiality, the names of the participant schools have been modified in this report.

Colegio Campestre, located in Latin America, was founded in 1977 and was authorized in the IB Middle Years Programme in 2005. It offers the MYP in 4 years, spanning from grades 6 through 9. At the time of this study, there were approximately 180 students

and 22 full-time teachers in its MYP section. The average years of experience in the IB of Colegio Campestre's MYP faculty was 5.6 years. However, of the 22 teachers in the MYP section, 11 were new to the program at the time of the study. Colegio Campestre allocates 9 hours per week to professional development activities, department meetings, grade level meetings, and section-planning meetings. It has a rather rigorous document revision process in place, as all MYP unit planners, annual plans, course outlines, and assessments are first revised as a team in departments, then by the Head of Department, and then finally are revised and approved by the MYP Coordinator.

Baybridge International School, located in North America, was founded in 1997 and was authorized in the IB Middle Years Programme in early 2009. At the time of the study there were approximately 85 students and 14 full-time teachers in its MYP section. The average years of experience in the IB of Baybridge's MYP faculty was 2.5 years. Of the 14 teachers in the MYP section, 8 were new to the MYP at the time of the study. Baybridge International School allocates an average of 3 hours per week to professional development and section meetings. Due to the size of the school, much of the planning takes place informally and as needed, as opposed to structured meeting times. The MYP Coordinator is solely responsible for the revision and authorization of planning documents and assessments in the MYP section.

The findings of this study were based on both quantitative and qualitative data collected from structured surveys, semi-structured interviews, and observations of students, teachers, and parents in the two school communities (refer to Appendix to review the survey and interview questions). Over 300 individuals participated in this study, approximately 220 students, 36 teachers, 3 academic coordinators, and 50 parents. Structured student surveys were designed to assess student perceptions of the articulation of program learning objectives and assessment criteria and student involvement in the assessment process. Teacher surveys were designed to assess teacher practices in the implementation and articulation of the subject assessment criteria. Structured survey questions were informed by program requirements specified in IB's MYP: From Principles into Practice, 2008 guide. Interviews for both students and teachers were semi-structured and were designed to supplement the quantitative data collected in surveys and better understand variables in which affect the way that assessment criteria are employed, learning objectives are articulated, and the level in which students are involved in the assessment process. And finally, observations of student portfolios, academic reflections, conference presentations, classroom activities, and assessment documents were conducted in order to collect anecdotal evidence to support conclusions and findings made from the surveys and interviews.

A content analysis methodology was employed to analyze the data collected during the research phase of this report. This methodology was selected due to the flexibility it allows in the research design and analysis of data (Elo and Kyngas, 2007). An inductive approach was taken due to the relative lack of research and data on the topic. Trends in participant response were categorized according to their perceived understanding of

subject assessment criteria and their engagement in the assessment process. Specifically, the quantitative data collected from student responses were categorized according to: student perceived understanding of subject area assessment criteria, their perceptions regarding teacher articulation of learning objectives of assessments, and their use of assessment criteria to prepare for assessments, self-assess their work during the assessment process and their use of this information to reflect upon their learning and areas for improvement. The qualitative data collected from teacher responses was categorized according to the perception of the level of understanding of their subject area learning objectives, and their practices in the articulation of learning objectives in the assessment. Additionally, information collected from observations of planning and curriculum documents as well as teacher and student practices was categorized according to its emergence in the data.

Findings

This study arrives at several important findings regarding the relationship of criteria based assessment and community understanding of program learning objectives. Overall, the findings support Royce Sadler's findings in higher education programs that use the criteria-based assessment approach, which indicate that despite the potential benefits that a criteria based assessment methodology has to offer (Rudner and William, 2002; Thompson, 2007; Wiggins, 1998), the articulation of program learning objectives and active student involvement in the assessment process remains highly subjective and is determined by the individual practices of the teacher and learner attributes of the student and not necessarily the assessment methodology (Saddler, 2005).

Community Understanding of Program Learning Objectives

Overall, it was found that students had a much lower understanding of learning objectives than originally anticipated at the beginning of this study. When asked how well they knew and understood the assessment criteria and learning objectives of the 8 subject areas of the program, only 40 percent of the student participants expressed knowing and understanding the subject criteria well, while 58 percent of the student participants expressed having a minimal or insufficient understanding of the criteria and learning objectives of the program.

Observations conducted in interviews and conferences and information obtained through surveys with students supported these findings, as most students either did not know the fundamental assessment criteria of many of the subject areas or were unable to adequately explain the learning objectives for the criteria they were able to name. While knowing the criteria for assessment and objectives for learning is a fundamental aspect of criteria based assessment, it was evident that in these 2 schools this was a relative area of weakness amongst the student participants.

With teachers, as expected, their perceived understanding of their subject area was much higher. Overall, 55 percent of teachers stated knowing and understanding the assessment criteria and learning objectives for their subject area well, 30 percent of

teachers noted mostly knowing them, and 10 percent of teachers noted having only a minimal understanding. Upon analyzing participant response, experience, not training, in the program was the most important variable that determined teacher's perceived understanding of assessment criteria and program learning objectives. All of the teacher participants who had 2 or more years of teaching experience in the IB Middle Years Programme indicated that they fully understood the learning objectives and assessment criteria of their subject area, regardless of their level of training. 60 percent of teachers with less than 2 years of teaching experience in the IB Middle Years Programme indicated knowing and understanding most of the learning objectives and criteria for assessment in their subject area. 10 percent of the teacher participants, all of whom were new to the program, indicated not yet having a sufficient understanding of their subject area learning objectives.

While training varied amongst teachers, experience in the program proved to be the most critical variable to the perceived teacher understanding of program objectives and assessment criteria. This is important to note, as over half of the teachers (19 of 36) in the 2 schools were new to the program at the time of the research for this report (one year or less in the MYP).

In surveys and interviews with 3 academic coordinators from the 2 schools, the general observation was that teacher understanding of program objectives, regardless of training and years in the program, was superficial and that the articulation of learning objectives was mostly inconsistent. Baybridge's Middle Years Programme Coordinator noted, "Not everyone does a good job linking learning objectives with appropriate tasks." The academic coordinator at Colegio Campestre found the same to be true at her school and noted that, "Teachers do not seem to understand the assessment criteria of their subjects. Assessment tasks are often disconnected with the conceptual understanding and most of the time do not meet the objectives of each subject." She went on to explain that the idea of "scaffolding" of formative tasks to help students prepare for summative assessments was absent from almost all teacher planning, and when it did occur it was spontaneous and not part of the original planning.

Common between the coordinators at both schools was the perception that many teachers still do not see the value in a criteria based assessment program. Both Baybridge and Colegio Campestre's coordinators felt many teachers often continue to design assessments in a more traditional manner, where assessment was seen as a form of measuring student understanding and skill development instead of being part of the learning process. Colegio Campestre's academic coordinator felt that teachers continue to feel more pressure to respond to meet local and national requirements than adapt their teaching to the aims and objectives of the MYP. She explained that classes were still teacher centered, and traditional methods of assessment were still very common within the program. Baybaridge's Coordinator had a similar observation and felt that teachers require a lot of guidance in developing authentic assessments that adhere to meeting the learning objectives of the program. Overall, the general

perception amongst the coordinators of the 2 schools was that teacher understanding, implementation, and articulation of learning objectives in the MYP were mostly inconsistent with the program objectives.

In support of these claims, observations of unit planners, task-presentation sheets (MYPAC's), and rubrics developed by the teachers from the 2 schools showed that the development of summative assessment tasks and articulation of subject learning objectives proved to be an area that required considerable development. To begin, in most cases formative assessment tasks were not always appropriately linked nor designed to prepare students for the primary learning objectives and summative tasks. In several cases, formative assessment tasks were either not planned or were implemented spontaneously. Task presentation sheets often contained holistic rubrics and were not task specific. The holistic rubrics that were used were the Year-5 subject criteria published by the IB. Additionally, external moderation that was conducted as part of Colegio Campestre's self-evaluation process found that not all teachers used assessment criteria properly, and in some cases teachers used the wrong assessment criteria to evaluate tasks. Thus, while teachers held a more positive perception of their understanding of assessment in the MYP, observations made by their coordinators and of their planning documents came to a different conclusion; that teacher understanding and articulation of learning objectives was considerably weak amongst many of the teachers at both schools.

Parents were perhaps the group in the learning community with the least understanding of the program learning objectives and function of assessment criteria. The majority of parents expressed uncertainty regarding the role of the program learning objectives and the function of assessment criteria. While many felt that their children had a much better understanding of the process of assessment, parents expressed having only a superficial understanding. Parents noted that orientation meetings presented by their school and designed to introduce assessment in the MYP were helpful, but were mostly superficial and that they required additional information and orientation in assessment. In observations conducted in student conferences, it was evident that most parents were not adequately equipped nor had the appropriate understanding of criteria to play a more active role in guiding their students in the area of assessment. The majority of parents from both schools expressed the need for additional explanation of assessment practices in the MYP.

Variables in the Articulation of Learning Objectives

In noting the inconsistencies of community understanding of program objectives, several interesting question arise. First, how are learning objectives articulated to the students and parents in the 2 schools? And second, what are the practices and variables that lead to "effective articulation" or true understanding of learning objectives? If, as Grant Wiggins proposes, the complete and total demystification of evaluation is to take place (Wiggins, 1998), what are the variables that need to be considered when articulating objectives of a program?

To begin, perhaps the most interesting finding in the data collected for this report was the difference between student and teacher perception of the articulation of task specific learning objectives prior to and after assessments. While teacher perception of their articulation of learning objectives prior to assessment activities ranked rather high, students shared a very different perception (Figure 1).

***Figure 1**: Student and Teacher Perceptions of Articulation of Learning Objectives*

	Always		**Sometimes**		**Rarely**		**Never**	
	S	**T**	**S**	**T**	**S**	**T**	**S**	**T**
The teacher reviews learning objectives with students prior to an assessment activity.	9%	38%	33%	53%	42%	4%	16%	0%
The teacher reviews learning objectives with students after an assessment activity.	16%	38%	40%	52%	30%	8%	10%	2%

S = Student T = Teacher

When students and teachers from the 2 schools were asked how objectives for learning in their program were articulated, there were several resounding commonalities. The method that was most commonly noted was the publication of subject criteria in course outlines and annual plans, on classroom walls as educational regalia, and on their school's website (each school has a portal that they depend upon for communication and the publication of school related materials). This method of articulation primarily took place at the beginning of each school year, when teachers reviewed the criteria descriptors for their subjects, usually as they published their course outline or annual plans to the students. While most students felt that the orientation to this information was very important, many noted that it was presented out of context and was usually presented with an abundance of other information that accompanied the course outlines. Furthermore, in the case of both schools, at the beginning of this study the information that was given to all students in Years 1-5 of the program was in the form of Year 5 criteria descriptors published by the IB. Achievement descriptors were not yet modified to reflect grade level objectives nor was the language transferred to a language more readable and accessible to the adolescent student.

The second most common form of communicating learning objectives came in the form of assessment rubrics. In the survey, almost all of the student participants indicated that assessment rubrics were commonly used to assess their tasks. Almost 90 percent of the student participants acknowledged that they received rubrics prior to assessment activities. Nonetheless, only half of the teacher participants indicated that they develop task-specific rubrics to clarify the learning objectives and expectations of assessment

tasks, a recommendation made by the IB in the MYP Coordinators Handbook and subject-area guides. The other half of teachers used Year 5 descriptors as their rubrics or marked the criteria score on the task and required that students refer to the criteria descriptors given to them at the beginning of the school year to learn more about their achievement level.

While students and teachers mostly agreed that rubrics and presentation sheets (referred to as MYPAC's at both schools) were the primary mechanism for articulating learning objectives of assessment activities, they disagreed in the effectiveness of this method of articulation. To begin, while students did indicate that directions for tasks were always made clear to them prior to an assessment, the overwhelming majority of students indicated that task-specific assessment criteria and specific objectives and expectations for learning often are not clarified prior to a summative assessment task. Second, while most students acknowledged receiving rubrics and presentation sheets, over half of the students noted that their teachers rarely reviewed this information with them prior to an assessment. Nonetheless, many teachers explained that these documents served as their primary means for articulating learning objectives of summative tasks.

When I discussed the topic of rubrics and presentation sheets with students, they explained that teachers varied in their approach to delivering this information. One student explained this variable best when he commented, "all of the teachers give us unit planners, rubrics, MYPAC's, and the criteria, but I don't think anyone reads this stuff. I think the teachers that explain it to us in person and give us examples are the ones who are easiest to figure out." Throughout my interviews and surveys with students, many students noted that they receive a lot of information in written form, but rarely read it with the regularity, depth, or understanding required to truly utilize it to their advantage. In fact, only 20 percent of students stated that they regularly reviewed rubrics and criteria prior to assessments, whereas over 35 percent of students noted that they never reviewed this information prior to assessments.

There are several possible reasons why rubrics and presentation sheets may not be as effective as they are intended. To begin, for students to effectively use rubrics to self-assess their work, they must be first trained to do so (Bargainnier, 2003). Self-assessment is a skill that requires careful attention and development. To simply hand out rubrics with assessment tasks and expect students to have the skills necessary to use them to their advantage is misguided logic. Self-evaluation and self-adjustment are fundamental Approaches to Learning skills that must be developed with close supervision and feedback from the teacher. Second, as mentioned earlier, many of the rubrics that are given to students at both schools are holistic not analytic, and in some cases take the form of Year 5 criteria descriptors. To empower students to use rubrics, teachers must develop task-specific or analytic rubrics that clarify the specific learning objectives and indicate to students exactly what is required of their work (Bargainnier, 2003). Finally, when rubrics are not incorporated into the formative processes of the

students' learning, they are not seen in the context required for self-evaluation. In fact for students who are not strong *Verbal-Linguistic* learners, rubrics can be challenging to interpret, especially if they are not written in the first language of the student or specific to the task. Involving students in the use of rubrics by allowing them to participate in their development, peer-edit and assess exemplars contextualizes the rubric and trains students to use them appropriately. Furthermore, differentiating such tasks may also be more inclusive of diverse intelligences or learners (Carner, 1993).

Clearly, rubrics and presentation sheets, when not appropriately implemented, do not indicate successful articulation of learning objectives in the MYP. What's more, they may lure some teachers into the false sense of security that their students are aware of the expectations for learning of an assessment activity when in reality they are not. Overall, interviews with students indicated exactly this, that rubrics and presentation sheets, while important, did not guarantee articulation of expectations for learning. This could very well explain why teachers perceive that they articulate the expectations for learning and objectives of assessment activities at a much higher level than the students feel they do.

The third most common means of articulation of learning objectives that was expressed by students was their involvement in formative activities designed by the teacher. Some students expressed that they learned about subject learning objectives and task expectations through active involvement in the evaluation process. These students indicated that they learned the expectations of their teachers and the goals for learning by self-evaluating their own work with assessment rubrics, by peer evaluating the work of their peers, and in the reflection process that was part of the requirement of their MYP Portfolio.

Throughout the study, the teachers that received the most positive remarks from students regarding their articulation of learning objectives were the teachers who deliberately planned formative assessment strategies that enabled students to construct meaning of the subject's learning objectives in context, through activities that included peer-editing, self-evaluation and academic reflection. In support of Wiggins' argument that active engagement in the assessment process helps students learn about the standards in which they are being assessed (Wiggins, 1998), one student noted that she learned the criteria of her Language A class best when she was allowed to edit the work of her peers using the same rubric that would later be used to assess her final draft. She commented, "This really helped me understand how my teacher grades me." Another student explained that when she worked in her MYP portfolio, she learned a lot about the learning objectives for different activities and subjects because she was "forced" to explain it using her own words. And finally, a third student explained, "I learn from making mistakes. When the teacher shows me what I can do to improve my work, I learn what I need to focus on."

Each of these examples is strongly supported by research to be methods that enable greater student engagement in the assessment process and encourage the development of metacognitive processes. In the first example, the student describes a methodology that helps students learn to decode assessment criteria, anticipate feedback and help develop their skills in self-assessment (Handley and Williams, 2010). In this approach, students are given the opportunity to review exemplars, or example work, and personally use the assessment criteria to compare examples with the objectives for the assignment in order to develop a greater understanding of what is expected of them. The second example referred to the use of academic portfolios as a learning tool. Studies have shown that portfolios are an effective formative process that allow for deeper understanding of content, a clearer focus of learning objectives, and a greater sense of accountability (Davies and Mahieu, 2003). Finally, the third example referred to a methodology known as recycling, or the practice of giving students multiple opportunities to develop their work, which is a formative exercise that helps students improve their work through revision and repetition, using the same criteria for assessment. Recycling reinforces the students' understanding and articulation of the expectations and objectives for learning (Saddler, 1983; Wiggins, 1998).

Overall, when students referred to formative processes their comments were always positively related to the articulation and deeper understanding of the expectations for learning. It is well documented that students learn best when they are actively involved in the assessment process (Davies and Mahieu, 2003; Wiggins, 1998). Throughout my conversation with students, this proved to be true. It was evident that the teachers who actively engaged their students in formative processes were much more successful in articulating and clarifying the objectives for learning during assessment tasks. Consequently their students showed a greater understanding of the learning objectives and criteria for assessment in their subject area.

The Importance of "Articulation" in a Criteria-Related Assessment Program

The importance of student understanding of the learning objectives and criteria for assessment is a fundamental element of the educative assessment model. As noted by Grant Wiggins, if the goal of assessment is to educate, students must have a complete understanding of the standards and objectives in which they will be evaluated so that they can become active members in the process, allowing them to self-assess and self-correct (Wiggins, 1998).

Surveys conducted at both schools showed that students and teachers agreed with Wiggins' framework of educational assessment (Figure 2). An overwhelming majority of students expressed that knowing the subject assessment criteria and objectives for learning was very useful information in the assessment process. They explained that this information often translated to a higher degree of success on assessment tasks. Furthermore, students explained that when teachers were clear in the expectations for learning, they had greater success in these classes. Conversely, students noted that the classes in which they experienced the greatest difficulties were the classes in which the

objectives for learning were not made clear to them from the start of an assessment task.

***Figure 2**: Perspectives of the Value of Articulation of Learning Objectives*

	Useful	**Not Useful**
Students	87%	13%
Teachers	96%	4%

Most teachers also agreed and expressed that understanding the learning objectives and assessment criteria of their subject area was critical to student success in their class. In developing recommendations and action plans for struggling students, the most common strategy put forth by teachers was to review rubrics and MYPACs before and during the development of summative assessment tasks. However, when putting this ideology to action, teachers were not consistent, as over 50 percent of the teacher participants noted that they only sometimes review criteria and learning objectives with their students prior to or after an assessment.

Overall, observations found that knowing and understanding subject area learning objectives had a significant positive impact on the learning processes of the students who participated in this study. At the most basic level, those who understood and could articulate the learning objectives of the 8 subject areas were the students who demonstrated greater achievement and development of processes of meta-cognition and academic reflection. In observations conducted during student conferences, portfolio reflection time and assessment activities, student understanding and articulation of subject learning objectives varied according to their level of achievement in the program. Students who had taken the time to read rubrics, review the materials regarding subject assessment criteria and actively engage in formative assessment activities generally had more developed metacognitive skills and strategies of self-improvement, as well as reflection processes.

To draw upon an example, during a reflection activity conducted in a Year 3 Humanities class, students who did well on formative assessment quiz expressed a more solid understanding of the learning objectives for the assessment task in their reflections. One student explained that while they did well on the formative quiz, they could improve their work in the future by including more “specific-examples from the time period to support [their] ideas.” Another student explained that they could “focus more on the structure of their paragraph response in order to make [their] arguments stronger.” These reflections for improvement were directly linked to the criteria and objectives used for assessment of the task, Criterion A *Knowledge and Understanding* and Criterion D *Presentation and Organization*. The ability to identify and articulate the objectives for this task enabled these students to recognize both their strengths and limitations within the context of the task and devise specific plans for improvement for future quizzes.

This observation is consistent with D. Royce Sadler's improvement model, which relates achievement directly to previous performance and knowledge of the goal or objective for learning (Sadler, 1983). Thus, as previous research and the observations made during this study suggest, students with a greater understanding of the task specific learning objectives have greater opportunities to reflect upon their performance and ultimately experience greater levels of academic achievement.

Conversely, students who did not do as well on the same task demonstrated a more superficial engagement in the learning process and shared less understanding of the objectives for learning than their peers. Their reflections tended to be more superficial and did not reflect validation of the objectives for learning or demonstrate an understanding of how they could adjust their work for improvement in the future. Reflections made by these students noted that in the future they could improve their work by "studying more" and "making their answers longer." These students struggled to articulate the basic objectives of the quiz, which was to show their ability to use specific examples to support their arguments and opinions and to organize their writing in a structured paragraph, using a topic sentence, main points and a conclusion. To their credit, these students also noted that they could improve their performance by reading the rubric and directions that came with quiz, as they acknowledged that this was a detail they neglected prior to the quiz.

In another similar example, a student from a Language B class who had received considerably low marks on an interactive oral presentation that was assessed in Criterion A and B, which both focus on oral communication, expressed his disappointment in an activity when he noted, "it's not fair when someone who can write a good script is marked down only because their presentation was not good. It's not fair when other students get good grades and they didn't even have a script." This student's reaction demonstrated his failure to understand the objective of the task, which required students to show their ability to communicate orally, anticipate unscripted questions from the audience and actively contribute to their presentation. His focus on the quality of his script demonstrated his failure to grasp the objective of the task, which was to show their ability to communicate orally in a second language. This observation supports research that has found that when measures are not appropriately taken to articulate learning goals and adequately arm students with the information needed to improve their work and develop their skills, they often struggle to understand what is expected of them and are confused regarding the marks they receive (Wilson, 1999).

In student conferences, it was also noted that an overwhelming majority of lower achieving students often struggled to adequately articulate why they were not doing well in a particular subject area. These students often had the greatest difficulties in devising specific plans for improvement and would often make goals such as; turn their home-work in on time, check with their teachers to see if they are missing any assignments, and organize their personal space on a more frequent basis. While these are very respectable areas for improvement, they do not focus specific program learning

objectives and were not the criteria in which they had been assessed. In fact, students seldom expressed their needs for improvement in terms of concrete learning objectives.

Overall, lower achieving students generally expressed superficial levels of understanding of the relationship between assessment activities and the related learning objectives. These students often focused on irrelevant criteria for assessment and did not articulate the stated objectives for learning.

Summary of Findings

In exploring the benefits and challenges of articulation in a criteria related assessment program, there were three major findings. First, both students and teachers demonstrated a lower understanding of the program learning objectives than would be expected in a program that requires active student involvement in the assessment process. Perceptions of the quality of articulation of learning objectives varied between teachers and students. Students mostly expressed that the articulation of learning objectives was not at the level or quality that helped them effectively engage in the assessment process. In fact, many students, for the most part, lacked authentic understanding of program learning objectives and the value of this information. Many students did not express authentic understanding of assessment criteria and learning objectives, and only a small percentage of students articulated active engagement in the assessment process in the form of their application of strategies of self-adjustment, self-improvement, and reflection. Teachers on the other hand felt they understood the expectations for learning and were mostly doing a satisfactory job of articulating program-learning objectives. However, observations found that while most teachers had an adequate understanding of their subject area's learning objectives, many had a superficial understanding of how to effectively articulate this information to the students in a manner that fostered greater student engagement and autonomy in the assessment process. This finding supports the research of Royce Sadler, which found that articulation of a criteria based assessment program remains subjective, and is based on teacher interpretation and understanding of the program (Sadler, 2005).

Second, and perhaps most importantly, this study found a positive relationship between the effective articulation and understanding of learning objectives and the development of metacognitive processes and skills in reflection. Observations and interviews showed that when students fully understood the expectations and objectives for learning, they were more actively engaged in the assessment process. As Wiggins suggests, students were more apt and capable to critically self evaluate and adjust their work, their reflections showed greater depth and understanding regarding their learning, and they were more coherent and clear in setting academic goals (Wiggins, 1998).

This brings us to the third major finding, that in order to effectively articulate learning objectives and develop student skills and processes in metacognition and reflection, student engagement in the assessment process must be seen as part of the taught curriculum. The articulation of learning objectives must be transparent, direct and seen

as important as the subject content. This approach to learning requires active student engagement in the assessment process and must be differentiated and contextualized in order to access all students. Nonetheless, this study found that many teachers rely heavily on a non-differentiated approach (the distribution of rubrics and presentation sheets) to articulate objectives for assessment tasks. This approach is not contextualized and relies heavily on the *Verbal Linguistic* intelligence (Gardner, 1993). While this was the most common approach used by teachers, there were instances of differentiation amongst teaching practices that enabled students to put in context their understanding of program learning objectives. These practices encouraged the development of student self-evaluation and metacognitive processes as well as academic reflection. Additionally they showed very positive results in the articulation and engagement of students in the assessment process. Thus, the importance of differentiating our methods in articulation and implementation of program-learning objectives is fundamental in enhancing student understanding and engagement in the evaluation process.

Implications and Recommendations for Practice

There are several implications for the implementation of a criteria based assessment model in MYP schools.

Articulation of Learning Objectives

The first implication of this study indicates that program articulation goes beyond the successful development of documents; rubrics, presentation sheets, intermediate criteria, etc. While both schools should be commended for the level and quality of the documentation of their programs, it must be taken into account that this did not equate to a high level of community knowledge and understanding of program learning objectives nor encourage a high level of student participation in assessment. The most basic finding of this study is that effective articulation does not end, but starts with proper documentation. To successfully articulate expectations and objectives for learning to students, students must be actively involved in assessment process (Wiggins, 1998)**.** Involving students in the development of rubrics, activities that allow peer assessment or assessment of exemplars, and encourage reflective processes such as achievement portfolios are just some of the activities that can help students develop their skills and abilities in self-assessment and allow for greater engagement in the learning process (Bargainnier, 2003; Davies and La Mahieu, 2003; Wiggins, 1998).

Articulation of Learning Objectives – A Need for Differentiation

The second implication of this study is that in order to successfully implement and articulate a criteria-based assessment system, it is critical that schools make the commitment to effectively 'articulate' program-learning objectives and actively engage students in the assessment process. To achieve this goal, leadership teams in schools must effectively arm their teachers with strategies to make this happen. Professional development in the area of assessment and differentiation can help teachers devise strategies for involving students in the assessment process, contextualizing reflection

activities (Davies and La Mahieu, 2003), developing and working with task exemplars (Sadler, 2005). Additionally, teachers require training and guidance in the development and implementation of formative assessment practices that are aligned with summative learning goals (Pinchock, 2009). The development of a quality professional development program in schools has the potential to affect 'enduring changes' in classroom practices of teachers, their attitudes and beliefs and the outcomes of their students (Guskey, 2002).

Publication of Intermediate Objectives and Criteria

The third implication of this study requires greater program articulation on behalf of the IB. At the time of this study, intermediate objectives for each subject area had only just recently been published and intermediate assessment criteria were still in development. While the MYP allows for flexibility in the implementation of the program so that schools may continue to meet state and national requirements, the articulation of intermediate learning objectives and assessment criteria at each level of the program is an area that requires greater clarity and development. To assure quality articulation at each level of the program, it is critical that teachers have access to the intermediate objectives and criteria for each level and that training is made available to schools in order to properly and effectively articulate this information to their learning community. While the IB does not offer site-level training in assessment in the MYP, from the observations and interviews made during this study, it is evident that this would be extremely useful and welcomed service for schools.

Organizational Support

The fourth and final implication of this study is the need for schools to address their role in providing organizational support for the implementation of a program as complex as the MYP. First, inconsistency stemming from teacher rotation has profound effect on a school's ability to develop and maintain collective knowledge and understanding of program objectives. Additionally, schools must make considerable investments in training and professional development to assure for effective program articulation. However, it is important that IB schools recognize the challenges that implementing an entirely new assessment model presents for many teachers. First, schools must realize that change is often a gradual and difficult process for many teachers. In order to sustain the use of new practices, teachers must receive regular feedback and feel rewarded for their efforts or else these practices will likely be abandoned (Guskey, 2002). Additionally, schools must provide continued support in order to encourage and motivate teachers to continue in their efforts to develop new practices. Professional development must be seen as a continuing process and not a series of singular events (Guskey, 2002). Thus, to succeed, schools must develop and implement a well-organized and articulated professional development program that meets the challenges of positively effecting teacher change. By providing institutional support and reducing teacher rotation, IB schools will have greater success in developing their programs at the level required for effective articulation.

Conclusion- Limitations and Areas for Further Research

This study was designed to explore the benefits and challenges of successfully articulating the learning objectives in a criteria-based assessment model. The findings of this case study show that articulation of learning objectives in a criteria-related assessment model has the potential to be equally subjective as in a norms-referenced grading model. While the design and intention of a criteria-related model is to eliminate subjectivity inherent in the mainstream model, there are numerous variables that must be taken into account when putting this methodology into practice. However, when the criteria based assessment model is properly articulated, it offers great benefits to the learner, as this study found a positive relationship between student engagement in assessment process and academic achievement and the development of processes of metacognition.

While the findings of this study show the promises and potential of a criteria related assessment model, the limitations of the research must be taken into account. The limited nature of the sample and the relative inexperience of the participants certainly played a role in the overall findings for this study. Furthermore, the relationship between the researcher and the sample schools must also be taken into account, as a program coordinator plays a fundamental role in the development of a school's assessment methods and practices. Further research, particularly in schools with a more experienced MYP staff and unrelated to the researcher, is needed to more deeply explore the variables in program articulation and their impact on student involvement in the assessment process. Additional research could also explore the role that professional development plays in developing teacher practices and reducing subjectivity in a criterion based research model. A greater understanding amongst teachers and program coordinators of the benefits and challenges of successfully articulating a criteria based assessment model is needed as more schools move toward implementing this increasingly popular methodology of assessment.

Bibliography

Bargainnier, Sandy. "Fundamentals of Rubrics." *Pacific Crest*. (2003): 1-4. Print.

Cumming, J. Joy, and Graham S. Maxwell. "Contextualizing Authentic Assessment." *Assessment in Education: Principles and Practices (1999)*. 6(2). Nathan, Australia: School of Cognition, 1997. Print.

Davies, A, & Le Mahieu, P. (2003). Assessment for learning: reconsidering portfolios and research evidence. In M. Segers, F. Dochy, & E. Cascallar (Eds.), *Innovation and Change in Professional Education: Optimising New Modes of Assessment: In Search of Qualities and Standards* (p. 141-169).!Dordrecht: Kluwer Academic Publishers.

Elo, Satu, and Helvi Kyngas. "The qualitative content analysis process." *Journal of Advanced Nursing*. 62.1 (2008): 107-115. Print.

Gardner, Howard. *Frames of Mind: The Theory of Multiple Inteligences*. New York: Basic Books, 1983.

Guskey, Thomas R. "Professional Development and Teacher Change." *Teachers and Teaching; theory and practice*. 8.3/4 (2002): 381-391. Print.

Guskey, T.R. (2005). Five key concepts kick off the process: Professional development provides the power to implement standards. *Journal of Staff Development*, *26* (1), 36-40.

Handley, Karen, and Lindsay Williams. "From copying to learning; using exemplars to engage students with assessment criteria and feedback." *Assessment & Evaluation*. 1. (2009): 1-14. Print.

Lianne, Angela, and Ferguson Woodley. "Standards Based Assessment: A Model." *Curriculum Services Canada Foundation* (2003): 1-52. *Curriculum Services Canada Foundation*. Web. 6 Jul 2011. <http://www.curriculum.org>.

Lombardi, Marilyn M. "Making the Grade: The Role of Assessment in Authentic Learning." *EDUCAUSE Learning Initiative* (2008): n.pag. *EBSCO Host*. Web. 19 Nov 2011. <http://creativecommons.org/licenses/by-nc-nd/3.0/>.

McMillan, James H. *Educational Research; Fundamentals for the Consumer*. Second Edition. New York: HarperCollins, 1996. Print.

Pinckok, Nick, and W. Christopher Brandt. "Connecting Formative Assessment; RESEARCH to PRACTICE." *Learning Point Associates*. (2009): 1-21. Print.

Ross, John A. (2006). The Reliability, Validity, and Utility of Self-Assessment. *Practical Assessment Research & Evaluation*, 11(10). Available online: http://pareonline.net/getvn.asp?v=11&n=10.

Rudner, Lawrence M., and William D. Schafer. *What Teachers Need to Know about Assessment*. Washington D.C.: National Education Association, 2002. Print.

Sadler, D. Royce. "Interpretations of criteria-based assessment and grading in higher education." *Assessment & Evaluation in Higher Education*. 30.2 (2005): 175-94. Print.

Sadler, D. Royce. " Evaluation and Improvement of Academic Learning." The Journal of Higher Education, Vol. 54 No.1 (Jan.-Feb., 1983), 60-79.

Stiggins, Richard J. Crown in Right of Alberta. Ministry of Education. *Grade Level of Achievement Reporting*. Alberta: Ministry of Education, 2008. Print.

Stiggins, Richard, Arter, Judy, Chappuis, Jan and Steve. "Classroom Assessment for Student Learning: Doing it Right-using it Well." Assessment Training Institute, 2004.

Thompson, E. (2007). Holistic assessment criteria: applying SOLO to programming projects. In S. Mann & Simon (Eds.) *Computing Education 2007. Proceedings of the Ninth Australasian Computing Education Conference (ACE2007). Conferences in Research and Practice in Information Technology, Vol. 66* (pp. 155-162). Ballarat, Australia: Australian Computing Society.

Wiggins, Grant. 1990. The case for authentic assessment. *Practical Assessment, Research & Evaluation*, 2(2). Retrieved October 25, 2011 from http://PAREonline.net/getvn.asp?v=2&n=2.

Wiggins, Grant. *Educative Assessment: Designing Assessments to Inform and Improve Student Performance*. San Francisco: Jossey-Bass, 1998. Print.

Wiggins, G. & McTighe, J. (1998). *Understanding by Design.* Alexandria, VA: Association for Supervision and Curriculum Development.

Wiggins, Grant and McTighe, Jay. *Understanding by Design.* 2nd ed. Merril Prentice Hall, Columbus, Ohio. 2006.

Wilson, Vicki A.. "Improving Achievement and Student Satisfaction through Criteria-Based Evaluation: Checklists and Rubrics in Educational Research Courses.." *CHECKLISTS AND RUBRICS*. November 17-19, 1999. Ed. Educational Research Association. Point Clear, Alabama: U.S. Department of Education, 1999. 2-8. Print.

Appendices

Appendix 1 – Student Survey

1. How well do you know the MYP Assessment criteria for each subject?
   I know all of them very well/I know the majority of them/I know some of them/I do not know them

2. How often do you receive a rubric with the criteria achievement descriptors prior to beginning an assessment?
   Always/Sometimes/Seldom/Never

3. How often do you review the assessment criteria descriptors for an assessment before beginning an assessment? (presentation, project, exam, etc…)
   Always/Sometimes/Seldom/Never

4. How often do you review the assessment criteria descriptors for an assessment after the assessment has been graded and returned to you? (presentations, projects, exams, etc.)
   Always/Sometimes/Seldom/Never

5. In your opinion, how useful is it to know the assessment criteria descriptors in helping you achieve the maximum score on an evaluation? (presentations, projects, exams, etc...)
   Very useful/Useful/Not very useful/Not useful

6. How often do your teachers review the assessment criteria descriptors for an assessment with your class after the assessment? (presentations, projects, exams, etc.)
   Always/Sometimes/Seldom/Never

7. How often do your teachers review the assessment criteria for an assessment or assignment with your class before beginning the assessment or assignment?
   Always/Sometimes/Seldom/Never

8. How well do you understand how the assessment criteria for each subject convert to the final evaluation bands (score over 7) in each subject?
   Understand very well/Understand a little/Do not understand

Appendix 2 – Teacher Survey

1. How many years of experience do you have teaching the MYP?

2. Have you ever received IB training in your subject area?

3. How well do you know your subject's assessment criteria?
   Very well/Mostly understand/Not totally clear/Do not know or understand

4. How often do you review the assessment criteria of an assessment with your students prior to an assessment?
   All of the time/Most of the time/Not very often/Never

5. How often do you review the assessment criteria of an assessment with your students after an assessment?
   All of the time/Most of the time/Not very often/Never

6. In your opinion, how useful is it that your students know the assessment criteria before presenting a final evaluation?
   Very useful/Useful/Not very useful/Not useful

7. How often do you create or use a task-specific rubric for assessments? (a rubric that is based on your subject's assessment criteria, but is specific to the task at hand)
   For every assessment/For most assessments/For some assessments/Never

Appendix 3 – Student Interview Questions

How do students at your school learn about the MYP assessment criteria?

Where can students at your school access the assessment criteria descriptors for each subject?

In your experience in the MYP, explain how you learn about the learning objectives of an assessment (presentation, project, exam, etc.). If it is different between teachers, please explain.

Grade Level: _____ Years in the MYP: _____

Appendix 4 – Teacher Interview Questions

In your opinion, what are the benefits of criteria based assessment?

In your opinion, what are the limitations of criteria based assessment?

Explain the role that the assessment criteria play in the planning process in your subject area.

Explain how your students learn about the assessment criteria in your subject.

Explain how you inform students of the learning objectives of an assessment activity or assignment.

Appendix 5 – Academic Coordinator Interview Questions

How do your teachers learn about evaluation in the MYP?

How do you oversee the assessment process in your section? What processes are in place?

Do you require that teachers develop and present task presentation sheets and/or rubrics with assessments? Do you review these?

Are your teachers required to create analytical rubrics? How do they learn how to do this?

What is your biggest difficulty in managing assessment?

Do students at your school receive Grade Bands 1-7?

How do your students learn about the assessment criteria?

How do your students learn about grade boundaries and criteria conversion?