How Does Blended Learning Change Assessment Practices?

by

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Abstract

Blended learning is a combination of face-to-face and online learning, and is growing in practice in many schools across North America. Blended learning provides engaging and meaningful learning experiences for today’s students. It allows for greater personalization of learning for each student that can include creative approaches to learning, teaching, and assessment. This project focused on how changes in assessment need to take place to parallel changes introduced in a blended learning school model. If a blended learning model emphasized greater flexibility, choice, and personalization of learning, then assessment practices need to do the same. In order to do this, assessment needs to be directly correlated to the learning outcomes of each course. This allows students to take different approaches to meeting the desired outcomes for the course. An assessment template tool was shared with grade 9 teachers and used with the introduction of a new blended learning model. This assessment template encouraged teachers to assess directly to the learning outcomes. The outcomes in the assessment template were directly taken from the new BC curriculum for grade 9. Student were required to create a web site at the beginning of the school year to track their learning and self-assess how they thought they were meeting learning outcomes covered in their classes. The student web site model can be found at https://sites.google.com/a/ncsnanaimo.com/learning-outcomes-site-model/. The assessment template tools for Math 9, Science 9, Humanities 9 (Social Studies and English), and French 9 can be found at https://drive.google.com/drive/u/0/folders/0B8sIDW9Sdjs7cW5aYUdZYXpQZ2c.

Keywords: blended learning, personalization of learning, flexible learning, assessment, learning outcomes
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Chapter 1- Introduction

Purpose of Project

The rapid change in emerging technologies in education is transforming teaching, especially over the last decade, and continues to change and evolve at a seemingly more rapid pace. Access to the internet and the World Wide Web has opened many opportunities to teachers and students alike. Traditional pedagogy paradigms are being challenged with opportunities for teachers to transform their teaching practices. It has allowed students to learn in many different ways and settings. Change in technology has also brought about change in the workforce. Many of today’s employers are demanding different skill sets that schools need to adapt to. Emphasis on traditional learning methods that require memorization of facts and knowledge do not prepare students for much of what employers are looking for today. New methods and models of education are being introduced in more schools every year. Blended learning can help in meeting the needs of the 21st century learner. Blended learning is simply defined as when students are experiencing online learning while continuing to attend traditional brick-and-mortar schools (Horn and Staker, 2015). Blended learning can provide learning that better meets the needs of the individual student, can be more engaging and relevant to them. It can emphasize more independent learning using an inquiry approach. Assessment can be more personalized and adapted to a more independent program. The trend to rethink the traditional classroom approach is fueled by the influence of innovative learning approaches, and as learning becomes more student-centered and personalized, flexible initiatives offer students choices in their learning (New Media Consortium, 2014, p. 16).

Blended learning in one form or another is growing in popularity (Picciano, A. G., Dziuban, C. D., & Graham, C. R., 2013). It comes in many different forms that can be modeled
in a way that suits the individual school. In blended learning, there is some intentional interaction of a live teacher and online learning. There is an online component of learning and a face-to-face component that takes place in a brick and mortar school. Blended learning can also include a community component that involves students learning in the local community. The main idea of flexible blended learning is that it can take place anywhere and anytime, not just in the classroom (Horn and Staker, 2013). It empowers students to take more control over their own learning in when, where, how, and what they learn. Many of today’s students are looking for more meaning in their learning and want innovative approaches to how they can learn.

Critical to the variety of ways a learner can learn and meet course learning objectives in a flexible blended program, is tracking assessment of learning outcomes and competencies. The new BC Education Plan, first drafted in 2013 and updated in January, 2015, is encouraging more flexibility in learning that emphasizes competencies that include communication, creativity, innovation, critical thinking, collaboration, and problem solving (BC Ed Plan update, 2015, p. 6). The plan notes that learning includes learning in school, home, and community. The plan also commits to a shift in pedagogy to more learner centered education that provides flexibility and choice (p. 8). A blended learning approach can help meet the requirements of the new BC Education Plan. Blended learning can help engage students, foster skills and competencies that will help them be prepared to meet the needs of our changing world. A transformation in learning includes more personalized learning, supported by quality teaching, which includes flexibility and choice. The challenge is how to track all learning outcomes for each course when personalization of learning is encouraged. The critical challenge for this project was to track how learning outcomes for the new grade 9 curriculum core courses are being met in a blended
learning setting at the school of my employment. This tracking was done by both teachers and students.

**Journey So Far**

To better understand the purpose for this project, it is necessary to understand the journey that my school and I have been on in recent years. I teach at a small K to 12 independent school in British Columbia. The school has been striving to find better ways of meeting student needs that attempts to move away from traditional learning. We had been asking ourselves how we can improve learning for our students. We added a BYOD (bring your own device) program in grades 9 to 12 that helped in making technology more accessible to our students, but we were still predominantly a traditional based school in our approach to learning. In 2013, I was part of task team that looked into the idea of starting a distributive learning school in order to offer online courses. Our students were seeking more alternatives to the traditional brick and mortar school. In the end, we decided not to pursue this option for a variety of reasons but still liked the idea of some online learning that could be offered by us.

In the fall of 2014, we kept pursuing the idea of how can we better serve our students and give them more learning options in school. In November, 2014, we looked at blended models that were being used in other schools in North America. Part of our criteria in looking at different blended models was how we can better serve the needs of our students in a more meaningful way for them which gives them more choice in styles of learning. Since all students do not learn best in the same way, we wanted to be able to give them flexibility in how they learn. We decided to move to a blended learning model that included two blocks of classes in the morning for core subjects and about one third of the schedule devoted to flexible learning time. Flexible time is when the students choose what they were going to work on. Part of the proposed flexible
schedule was time for students to learn outside of class, such as online courses, work experience and Independent Directed Studies. Our model included a meeting with a teacher mentor at least once a week to set goals for the week to come and to look back at what was achieved. Accountability was built in with the use of a mentor in partnership with the subject teachers. The model also included more emphasis on inquiry based learning. This would help to build in relevancy for the learner and make their learning more meaningful. This approach would also help to give more responsibility for learning to the learner and change the role of the teacher. This approach also increased the importance of a mentor to help guide this process in conjunction with the subject teacher.

Important to the process of moving to a blended model is how to implement it and to get all stakeholders involved and on board as much as possible. First, the new model was presented to the high school teachers with encouragement to let administration know about their reactions to it. Like all new things, there were a variety of reactions to the initial introduction. Some teachers did not want changed, some were cautious but open to change, and others were excited about it immediately. The next step involved presenting the idea to our parent community. We had two parent meetings, with the first meeting for information and the second meeting for answering questions about the proposed new model. At the time, the majority of parents appeared to be in favour of the new blended model with some who were neutral and others who were opposed to change. Many had the attitude of we are willing to try it and see how it works and we will let you know if we do not like it.

In the second semester, commencing in February, 2015, we piloted our blended learning model one day of the week. Every Thursday we ran four, one hour morning classes and a flex afternoon. Part of the flex time for the afternoon included guest speakers, field trips and other
activities in which students mostly had choice in whether to participate. The students had flexibility in choosing what course work they were going to work on unless otherwise dictated by a teacher for those students who might have been behind in some of their work. Over time, we added student goal setting and exit tickets in trying to get them to be more efficient and task oriented. We posted the rooms where specialty teachers would be located in case a student wanted extra help in that subject area. If a student wanted extra math help during the flex time, they would go to the classroom where the math teacher was located to ask him/her for help. We had a designated math, science, and humanities rooms, quiet room and a collaboration room for students to choose from. We started a Google Document for teachers to record the work assigned for students during flex time so each teacher could see what was assigned for afternoon flex time. The pilot helped us get a better understanding of how to improve upon the blended learning model that was being introduced in September, 2015.

Before the September, 2015 school start, we held a week of training for teachers to better learn how to teach within the new model. More inquiry and project based learning was emphasized with the intent of making learning more relevant and meaningful for the student and giving more ownership to the student for their learning. The process of changing to a different learning model for our school is a journey that we will be on for years to come. With ever changing technology and new approaches to learning being introduced we have to be open to better ways of serving our student’s learning needs.

Justification for this Project

My school had decided to move to a blended learning model, implemented in September, 2015. The decision to move in this direction was to try and better meet the needs of our students by trying to increase their engagement level and make learning more meaningful. Part of
increased student engagement is to personalize their learning. Bevan-Brown, McGee, Ward and MacIntrye (2011) found that most schools recognized personalizing learning as valuable and important. They also argued that personalizing learning is an essential cornerstone of education as it provides a multidimensional framework for the development and delivery of effective teaching and learning for all students. Personalized learning allows for students to go deeper into the topics that are more interesting to them. Learning can also be achieved outside of the classroom and therefore learning outcomes can be met in a number of ways. The project challenge was to track all learning outcomes for each of the core subject areas. Part of the challenge included students taking more ownership in tracking how they were meeting learning outcomes.

Assessment practices had to change because of my school’s move to a blended learning model with an emphasis on more inquiry based learning. A challenge in moving to a blended learning model that emphasizes flexibility, is how to effectively track how learning outcomes and competencies for different subjects are being met. This project was meant to try and meet some of these needs. The purpose of moving to a new blended model was to better meet student learning needs and to follow the new guidelines of the BC Education Plan, updated in January, 2015. This project only included the new learning outcomes for grade 9 because grades 10 to 12, at the time of the initiation of this project, had not been drafted and released. As changes are made to provincial curriculum it will be important for teachers, students, and parents to know how students are learning.

Under the BC Education Plan (2015), our challenge was to develop curriculum and new ways of learning. Using an online platform to track learning outcomes and competencies to measure learning is important. In a blended learning model, outcomes can be met through the
classroom, project base-inquiry learning, community involvement, and independent directed studies and online learning. With multiple ways of achieving outcomes, it is important to monitor that outcomes for each subject are being met and to what degree of success they are being met. A traditional approach to tracking assessment and learning outcomes will not work as well in our new approach to learning. A traditional approach to assessment is likely not as flexible to the possibility of having numerous ways of meeting a learning outcome. One of the reasons for implementing a new blended model was to provide flexibility for students and the teachers.

**Methodologies**

The overall purpose of this project is to provide a template for teachers and students to track the learning outcomes for the new grade 9 curriculum. This will allow grade 9 teachers and students to monitor learning outcomes in how well they are being met. Competency skills as listed in the BC Ed Plan (2015), are also tracked and reported. These are important skills for students to master, therefore, should be monitored for completion.

A list of all grade 9 learning outcomes were compiled in a Google Sheet that was shareable with all grade 9 teachers. The list was created by core subject area using the new learning outcomes and competencies that are being implemented in BC, optional for September, 2015 and fully implemented for September, 2016. Students created their own website that included learning outcomes with different pages for each subject within the project. Students were responsible to record how learning outcomes were being met by giving evidence of their learning. They also self-assessed themselves for each of the outcomes listed in the course curriculum. This website was shared with their teacher mentor and subject teachers. One of the main goals of the blended learning model was to allow students to take more control of their own
learning, think for themselves, and be actively involved in learning and assessment. The student website was part of this process.

**Challenges to be Addressed**

The intention of documenting learning outcomes was to avoid duplication or to avoid not covering a learning outcome at all and to track achievement in how the learning outcomes were being met. When cross curriculum projects are undertaken this is important. For some teachers, this may seem like another layer of documentation and with that comes the perception of more time and work, but it is important to help in monitoring student progress and to be able to report this to students and parents.

For students it involves training, monitoring, and mentoring, and the creation of their own website and inputting meaningful data into this site that includes evidences of learning. This is not something they have had to deal with in the past and it has not been part of the culture of the school. The goal is to get teachers and students to use the created template so that it is meaningful and effective without being cumbersome. If successful, this model will be used for grades 10 to 12 as new curriculum and learning outcomes are introduced in British Columbia in these grades over the next few years.

In summary, because of the blended learning model implemented in the school, the project aim is to help teachers monitor how well learning outcomes are being met in core subject areas in grade 9. This helps the grade 9 teachers to have a more integrated view of learning, knowing that all learning outcomes and core competencies are being covered. The student is more involved in tracking and monitoring their own learning through the creation of a website that includes evidence of learning and their own self-assessment of how well they think they are meeting learning outcomes.
Chapter 2 – Literature Review

What is Blended Learning?

Blended learning, also known as hybrid learning, has been around for a number of years. Recently, it has been growing in popularity (LaFrance and Beck, 2014) with many different forms of it being used in a variety of educational settings. In *Getting Smart: How Digital Learning Is Changing the World*, Vander Ark and Wise (2011) make the claim that by 2017, up to 50% of high school courses will be online. Picciano, A. G., Dziuban, C. D., & Graham, C. R. (2013), claim blended learning is being seen as one of the most important vehicles for education reform today and has taken off in K-12. In this chapter, I will focus on the question, does a flexible, blended learning model increase engagement and relevancy for the learner and what role does assessment play in this process? I will include a definition of blended learning, describe different models of blended learning and give suggestions of how to implement a new blended learning model. Part of looking at different blended models includes a definition of sustaining models and disruptive models. Also included are benefits of blended learning, assessment in blended learning, along with design approaches with ways of implementing a blended learning model in a brick and mortar school. Adopting methods of assessment that match blended learning is important and will be explored. This chapter finishes with analyzing what is the best way of assessing student learning in a school model that emphasizes a flexible schedule. Meaningful assessment is important in the learning process. What might work in a traditional school model may not work in a blended model of learning.

Blended learning models are being adopted for a variety of purposes. Some are extending instructional time at lower costs by using online programs to deliver instruction during an extra block of class time while paraprofessionals monitor the classroom or lab. Teachers are using
blended models to add variety to their instruction and to free them to spend more time working with individual students. Schools are also using the adaptive and self-paced nature of some online systems to re-engage students, particularly those with the greatest academic needs, by enabling them to learn at their own pace and appropriate level of challenge (Murphy et al, 2014).

Blended learning can be difficult to define because of the many understandings of what it is and the variety of ways it is used in education. It is important to acknowledge that "blended learning means different things to different people" (Discroll, 2002), therefore it is necessary to give a definition, whenever a concept of blended learning is discussed. Rose (2011) stated that blended learning is an overused term and has largely lost its meaning. But there are some definitions that seem to be more openly accepted. Horn and Staker (2015) call blended learning when students are experiencing online learning while continuing to attend traditional brick-and-mortar schools. Initially, blended learning had its roots in online learning. Online learning in its early years was mostly used for remedial purposes for students who were trying to graduate or for homeschool or distance learning settings. It had little appeal for the mainstream student (Christensen, 2010). With the advances in technology and cloud based computing, blended learning has increased in popularity in the mainstream and is being more widely used in a variety of settings. Horn and Staker (2015) and Rose and Ray (2011) both similarly define blended learning in three parts. Three elements are always implicitly or explicitly present in even the broadest of these definitions. They are (1) some personal contact with an instructor, (2) some use of electronically delivered learning objects, and (3) an intentional design effort to make these first two elements work together toward defined learning objectives. Firstly, blended learning is any formal education in which a student learns at least in part through online learning, with some element of student control over time, place, path, and/or pace. Online learning means a shift from
the face-to-face teacher to web based instruction and content (Digital Learning Center, 2013). This does not mean just using online resources such as Google Docs or a cloud tool connected with the face-to-face class. The second part is that the student learns, at least partially, in a supervised brick and mortar location away from home. There is some face to face contact with the instructor. Lastly, the methods of each are connected to provide an integrated learning experience. This means that there is some design to make the first two factors work together to meet the learning objectives. The importance of design is stressed by several authors (Lanham and Zuou 2003; Hoffman and Miner 2008). The online and face-to-face components work together to provide an integrated course. Some aspects of a course may be online and other parts may be in the classroom. Launer (2010) defines blended learning “as the combination of technology supported self or distance study settings and face-to-face settings”. Brew (2008), described blended learning as a means to integrate the online and face-to-face formats to create a more effective learning experience than either medium can produce alone. Christensen, Horn, Staker (2013), defined blended learning, “as a formal education program in which a student learns at least in part through online delivery of content and instruction with some element of student control over time, place, path and pace, and at least in part at a supervised brick-and-mortar location away from home.” An example of blended learning is a student taking Physics 12 online with in-class labs done in a brick and mortar school lab. The online component could also have a teacher resource person at the brick and mortar location to help with key concepts and weekly face-to-face sessions. Many schools may take a technology rich classroom approach but do not practice blended learning when they think they are. Because blended learning is still in its early stages of development, many schools are thinking about learning in hundreds of
different ways as they experiment to figure out what works best for them (Horn and Staker, 2015).

**Will Blended Learning Increase Student Engagement and Personalization?**

Online learning in a blended format can move schools into the 21st century of learning and away from the factory-model schools. Schools in the early 20th century focused on a system that had a teacher teach to one set of students where they would teach the same subject, the same way, and at the same pace to all children in the classroom (Horn and Evans, 2013). This system was geared more to a smaller percent of students who would go into further education or knowledge based jobs. The factory modeled schools worked well for the time period and helped many people get into the middle class (Khan, 2012). Most students found employment in factories and other areas that did not require much knowledge. The fact that there were many dropouts from school did not matter as there were many jobs for them in the workforce (Echols, 2005). The challenge today is that over 60 percent of jobs require knowledge workers and we expect schools to educate all children so that they meet their potential. The factory design falls short for many students (Echols, 2005). Teachers knows that students learn at difference paces and do not all have the same needs in any one class. You can have students in a class who already know a concept being introduced while other students cannot grasp the concept, even after a few attempts of explanation. One student could be bored because the pace is too slow and another can be frustrated because the pace is too fast.

A more personalized education that is customized to the individual student could be a solution. This can be difficult to do in a typical class of about 25 to 30 students with only one teacher and many learning needs (Christensen, 2010). Differentiation- teaching students at different levels of achievement in the same class- is the greatest challenge in American schools
today (Jacobs, 2014). Jacobs (2014) also reported the principal of Oakland’s Community Prep School commenting that in a class of 32 students with no aids that this is an impossible task.

Oakland Community Prep School is one of the many schools that has turned to blended learning to help meet the individual needs of their students (Jacobs, 2014). Bevan-Brown, McGee, Ward and MacIntrye (2011) found that most schools recognized personalizing learning as valuable and important but there were wide variations in the depth of understanding around it. They also argued that personalizing learning is an essential cornerstone of education as it provides a multidimensional framework for the development and delivery of effective teaching and learning for all students. Horn and Staker (2015), define personalized learning as learning that is tailored to an individual student to help each one succeed. Blended learning can be one way that schools could help to personalize education along with other possibilities. But, “because a school adopts online learning does not guarantee that learning will be personalized” (Horn and Staker, 2015).

Blended learning that allows more personalization can also increase engagement of the learner. There is no one single method of teaching that has been proven to effectively teach every child at every level within a classroom. “If classroom instruction is not engaging learners, then it is clear that they are not learning” (Pierce, 2009). Being able to have more flexibility in delivery and still have access to a teacher can help in engaging students. Personalizing learning through methods such as advisories, individualized education plans (IEPs), mentoring, and differentiated instruction can engage students in their studies because students know that their teachers are striving for their success and learning (Educational Research Service, 2008). There can be more one on one time between student and teacher when a teacher advisor has regular time each week with their student to plan the learning together. To engage learners in the classroom setting, it is necessary to understand these new learners, and the needs of the learners today have significantly
changed from those just ten years ago (Thornburg, 2002). The learner of today is not the same learner of before wide use of the internet. A study by Vaughn (2014), which examined the strengths and challenges of blended learning classrooms, found that students enjoyed the improved time flexibility, learning outcomes, and personal attention that blended learning can give. The factors that contribute to high levels of student engagement are a mix of the background of individual students, guidance, expectations and outlooks of parents and peers, and the school-wide instructional methods (Jones, 2008). A combination of methods helps contribute to overall engagement of students in learning. Learning theory proposes that student learning or engagement is heightened when students are vigorously involved in their learning (Newmann, 1996). Learning occurs as learners are actively involved in a process of meaning and knowledge construction as opposed to passively receiving information (Ed Online, 2004). The foundation of hybrid teaching is built upon creating student-centered learning environments whereby the teacher’s primary role is encouraging students to become active knowledge seekers versus spoon-fed learners (Cauldfield, 2011). At Digital Literacies in New York City, they use blended learning to connect with students who did not do well in a traditional learning setting. The shift is to more personalize learning where students are active seekers, thinkers, and producers and away from students primarily being receivers of content (Nolan, Preston, Finkelstein, 2012, p44). Vaughn (2014) also refers to blended learning as an opportunity to allow teachers and students access to “radically increased possibilities for understanding how we transmit and receive information, how we interact with others in educational settings, how we build knowledge, and how we assess what was taught or learned.” Alijani, Kwun and Yu, (2014) found in their study that blended learning showed an advantage over both traditional, face-to-face learning and purely computer-based or online learning. Murphy et al. (2014), stated that up to this point there has
been limited rigorous studies that have been done on the effectiveness of blended learning models. But they also reported that many claims have been made about the effectiveness of blended models.

It is important to be reminded of the role that technology plays in blended learning. Today, blended learning has become known as a way of teaching that uses technology in lieu of some portion of time spent in the classroom. There is much truth to this. However, it is important to point out from the start that technology is a tool to help create engaging, interactive, and effective student-centered learning environments regardless of whether it is used during class or outside the classroom. It is not the primary focal point of blended learning, and as soon as it is made so, it decreases the likelihood of designing a blended experience that is as effective and engaging as it could be (Cauldfield, 2011). An example of poor planning could be finding a new technology tool for students to use and trying to find where it could fit in the curriculum and pedagogy design instead of taking the learning outcomes and finding technology tools that could help achieve these learning outcomes in relevant and engaging ways for the students. Design is not about the tools used so much as what is the best way to achieve the desired outcomes. Horn (2014) blogged that “we seek to help educators avoid one of the biggest mistakes in implementing blended learning, which is deploying technology for its own sake, rather than to solve a meaningful problem or achieve an important learning goal.” Having the wrong focus in blended learning can be a recipe for not getting it right. In Murphy’s et al. (2014) study, teachers reported that student’s success was not equal. Students above or at grade level seemed to benefit more than students below grade level. Teachers also reported that students who could self-direct and self-manage had more success and thrived in blended models.
What are Different Models of Blended Learning?

Horn and Staker (2015) state that blended learning is still in the messy early stages of its development. Schools are thinking about blended learning in hundreds of ways as they try to figure out what works best for them. Hew and Cheung (2014) ask how do we find the right blend of mix between face-to-face and online components? Horn and Staker (2015) found that their research showed that most blended learning courses fall somewhere into the four main models. These four models follow the definitions given by the Clayton Christensen Institute for Disruptive Learning (2012) and are widely accepted by many to help describe models of blended learning. These models are Rotation, Flex, A La Carte, and Enriched Virtual. They include in many cases models that are a mix of these four to come up with what is seen as fitting the local needs. Dream Box Learning (2013) refers to 6 models of blended learning, some which are the same as the four basic models described by Horn and Staker (2015). Not all their described models fit the definition used of blended learning in this literature review. But Dream Box Learning’s six models include the four already listed, some with a different name.

This section describes what these basic models are and will follow the ones as listed by Horn and Staker (2015) and the Clayton Christensen Institute (2012). The Institute claims this taxonomy will evolve as the practice of blended learning matures. Horn and Staker (2013), write, “Our hope is to advance a common language around blended learning that will help educators frame the issues and not talk past each other, since language should not be the bottleneck to innovation.”

**Rotation Model.** Students rotate on a fixed schedule or when the teacher has them rotate. They move to different learning centers of which one is online learning. They may rotate between online learning and some kind of whole class discussion or project. This is not new
except for adding the part of online learning (Horn and Staker 2015). Types of rotation include station rotation, lab rotation, flipped classroom, and individual rotation.

Station rotation takes place within the classroom while lab rotation has students moving to a separate computer lab that likely has a different set of teachers to supervise an online component of learning. An example of station rotation is KIPP Empower Academy in Los Angeles. Throughout the day the teacher rotates students among the computers, small-group instruction, and individualized instruction. During teacher-led instruction, group size is under 14 students per group for reading, math, writing, and science. KIPP Empower’s leaders believe that adaptive-technology approach, coupled with enhanced individualized attention from the classroom teacher result in greater academic results (Horn and Staker 2015).

Lab Rotation has a certain amount of time build in where students are working individually on core subjects in a separate lab. Rocketship follows this model where students are 25% in the lab and 75% in teacher led classrooms. They use monitors rather than teachers during lab time. This is a cost savings that they use to put into other areas of their school (Horn and Staker, 2015).

Flipped classrooms have received much media and teacher attention over the last number of years. It takes instruction and has students view the online lesson at home or independently at school. Time in the classroom is devoted more to the teacher providing assistance or for more collaboration. The advantage of this is the student can view the online instruction video again until they understand the concept. Flipped classrooms are still traditionally based on lecture, only the method of lecture is changed. Many schools use Khan Academy videos to teach key concepts to their students (Horn and Staker, 2015).
Individual rotation is where students rotate on an individual schedule that is customized for them. They do not necessarily go to each station but either a teacher or an algorithm decides their schedule. Carpe Diem Schools uses this model where students have lots of choice in a personalized system that is tailored to the individual student.

**Flex Model.** Online learning is the core of this model. The teacher is onsite and students mostly learn at a brick-and-mortar campus. Students move through a flex course as decided by them. Teachers are there to provide help and guidance and in some models they initiate projects and face to face discussion (Horn and Staker, 2015). Vander Ark (2012) compared Flex models with Rotation models and saying that Rotation models have some online component while Flex schools start with online learning and add a face to face component. Vander Ark gives some advantages of Flex models that include competency-based where students demonstrate mastery of outcomes and the program is personalized for each student. Other advantages include the flexibility of a schedule that students have some control over it. Flex models also allow for flexible staffing options. Other aspects of the Flex model that Vander Ark gives are the development of project based learning, more community use such as historical sites and natural resources, linking with businesses and more work experience programs among other potential initiatives.

**A La Carte Model.** The most common form of blended learning at high school level is the A La Carte Model (Bridges, 2014). This model includes any course that a student takes online to supplement courses that they are taking in a brick-and-mortar school. A school might not offer AP classes and a student chooses to take it online while still taking all their regular classes. The course could be done at school or home and there is usually little support from the brick-and-mortar school for the online course.
**Enriched Virtual Model.** Enriched Virtual model allow courses that have face-to-face sessions with an online component that allows the student to complete it from wherever they want. The in-class sessions might be once or twice a week and are required but the online portion is where the student works independently whether on or off campus. Schools using this model may have started with being fully online and have moved to a face-to-face time because they wanted to give their students more support (Horn and Staker, 2015).

**Mix of Blended Models.** There are some models of blended learning that use a mixture of the models described which results in a combination approach (Horn and Staker, 2015). Some schools might use different models in the same school at the same time to meet different needs of their students. This is what my school of employment decided to do. We implemented a mixture of Rotation, Flex, and A La Carte. Some students may choose to complete courses fully online in a cross-enrolled format. This means that they are taking it online and it is offered by another school. They do this for courses our small school may not offer or the school course may not fit the student timeline of when they want to take it. There are some courses offered by the school that had regular face-to-face classes with an online component. This is done especially in math where the teacher has the students for three times a week and students have access to an online math program to complete the work and practice with the concepts. The flexible part is that they are offered other ways of learning the math such as direct instruction from the teacher and having a teacher available to answer questions during flexible study blocks built into the timetable.

**Sustaining and Disruptive Innovation.** After reviewing the different models of blended learning it is worthwhile to look at two types of innovation. Christensen, Horn, and Staker (2013) describe two types of innovation; sustaining and disruptive. “Sustaining innovations help leading, or incumbent, organizations make better products or services that can often be sold for
better profits to their best customers. They serve existing customers according to the original definition of performance.” While disruptive innovations “do not try to bring better products to existing customers in established markets. Instead, they offer a new definition of what’s good—typically they are simpler, more convenient, and less expensive products that appeal to new or less demanding customers. Over time, they improve enough to intersect with the needs of more demanding customers, thereby transforming a sector.” “A hybrid is a combination of the new, disruptive technology with the old technology and represents a sustaining innovation relative to the old technology.” The combination of sustaining models and disruptive models lends itself to blended innovations in education. Online learning and its growth has been disruptive to mainstream brick-and-mortar learning. Hybrid models use a blend of old and new and this includes the Rotation model. The Rotation Model seeks to add online learning to a traditional classroom setting. More disruptive models are Flex, A La Carte, and Enriched Virtual. They are not disruptive to school but to the way school has been done (Horn and Staker, 2015).

**How to Design and Implement a Blended Model?**

The culture of a school is important to the success of any blended learning model. Horn and Staker (2015) and Bailey et al. (2013) refer to culture as a critical part of the success of any blended-learning program. Horn and Staker (2015) also observed that “Blended learning accelerates a good culture and makes it great, but it will also accelerate a bad culture and make it terrible” (p. 249). Blended learning involves giving students more control and flexibility and they need the culture or processes to handle the change or otherwise the change might not be effective at all. Sicat (2013), stated about the school he was involved with, USC Hybrid High School, that culture matters. Holding students to high expectations for behaviour and having rewards and consequences for every positive and negative is important. Culture is a strong force,
either for the good or for the bad. Murphy et al. (2014) outlined that a good culture is important for students to fully benefit from online learning in a blended model.

It is not easy to choose a model you want for your school and finding the right online programming for it. Part of moving to more online content is to decide whether to build and design your own curriculum or buy from online providers. Online learning might be as simple as a teacher who is flipping his/her classroom where they record their own lesson. Cost, quality and local need are factors in deciding the type of online resources. The Blended Learning Implementation Guide 2.0 (Bailey et al., 2013), in the DLN Smart Series, is an excellent source to use when implementing a new blended learning program. Implementation starts by building communication avenues to try to involve all players. Bailey et al. (2013) calls it a team sport. Implementation needs to include all levels of stakeholders for it to be successful. This includes learning leaders, teachers, support staff, parents, and students. It can also include other community people that have an interest in the school(s).

The Implementation Guide outlines a need to plan for network equipment and management, broadband, sufficient power sources, facility and furniture changes, and access to computing devices for students. Next, it emphasizes the need to train teachers. They note that training is not simply showing teachers how to use new tools in the classroom. The Learning Accelerator (2015) found that the majority of competencies that a teacher needs are the same as a traditional teacher but the emphasis is more on personalization, resource flexible, and mastery-based learning. In choosing the best model for one’s needs Horn and Staker (2015) pose six questions to guide the decision making:

1. “What problems are the school trying to solve?

2. What type of team does the school need to solve the problem?
3. What does the school want its students to control?

4. What does the school want the primary role of the teacher to be?

5. What physical space can the school use?

6. How many internet-connected devices are available?” (p. 220)

These questions can help to choose the model desired.

**Continuous Improvement.** Once a school has implemented a new model it is important to keep assessing and evaluating its success and what needs to be changed. The Implementation Guide suggest key questions to help in this process which include:

- “Is it working? Why or why not? How do we know?
- How can we improve it for next year?
- How do teachers feel about it?
- Has student learning improved?
- Are more students engaged in deeper learning?” (p. 51).

Schools need to review on a regular basis. In Summit Schools, leaders have encouraged the staff to experiment with new blended learning ideas (Bernatek, B. et al., 2012). The Alliance for College Ready Schools promotes ongoing innovation where staff search for problems in the model to improve the model (Bernatek, B. et al., 2012). Penuel, Fishman, Cheng, and Sabelli (2011) note that teacher’s adaptions of models, not leadership plans, largely determine a model’s effectiveness. Arney (2015) advised to learn from one’s mistakes and suggested that failings might teach more than successes. Regular reflection should be planned and scheduled so it does not get overlooked. Once a plan is implemented it should not be the end but only the beginning of a journey to better serve student’s needs and learning.
Does Blended Learning Change Assessment Methods?

As blended learning becomes more popular, it is crucial to have appropriate assessment methods to improve learning. Learning online is very different from traditional classroom learning. Students entering high school today were born in a world with the internet. These new learners are expected to be able to apply self-regulated learning strategies and access digital information in most any profession they choose (Kern, 2015). Garrison and Kanuka (2004) described blended learning as being transformative because it forces teachers to reconsider their traditional learning methods. Ko, Xiongy, and Wachira (2014) identify the importance of effective assessment strategies that need to be implemented for blended learning models.

Assessment in blended learning should have some different strategies than what is used in a traditional classroom. Stein and Graham (2014) emphasize that assessment and learning outcomes in blended learning should reflect real world activities or skills that would be expected of them in the future, after they left the course and are applying what they have learned. Blended learning can expand the means by which teachers’ measure student learning. Assessment should provide students useful feedback and should be quick in being returned to the student. A variety of assessments better ensure that learning outcomes are assessed from different angles. It should be based on the ‘real-world’ as much as possible using real-world content or simulation activities (Stein and Graham, 2014). Stein and Graham also outline that feedback should include mastery of learning outcomes with comments that include what needs to be done to improve mastery of the learning outcomes. Automated online tools, such as online quizzes, can help in giving quick feedback on the mastery of the outcomes. Arney (2015) recommended that students should own and reflect on their own individual achievement data, especially if software is being used. Student ownership helps build the connection between their efforts and achievements. Successful
students take charge of their own learning. Booth, Hill, and Dixon (2014) reported that when students think about their own learning they are more able to discuss their understanding with others which can open a way to self and peer-assessment practices. They noted that this does not come quickly and students need time, support, and opportunities in the context of their own learning to master self-reflection skills. Having students track their own progress can help increase ownership of learning. Booth, Hill, and Dixon (2014) stress the importance that teachers need to be aware that learners who are asked to critically evaluate their own work need to do so in a safe environment that is focused on learning and where mistakes are seen as opportunity for growth in learning. The right set of assessment tools can also motivate students, provide models for high quality work, lead students to discovery, serve as instructional feedback, contribute to classroom community and invest in school activities with a strong sense of purpose (Berger, R., Rugen, L., Woodfin, L., Johnston, M., & Grant, D. 2014). Dzuiban (2015) suggests authentic assessment should be challenging, involve performance or product, transfer skills and abilities to a relevant context, involve metacognition, part of learning, continual and meaningful, and involve some form of collaboration. He writes that authentic assessment should include application of knowledge and skills to a task, problem solving, leadership, and other areas that require higher level of integration.

Stein and Graham (2014) outline other important assessment methods for blended learning that include peer assessment. It allows students to improve their work and allows them to refine their own skills while peer assessing student work. It also allows the student to gain critical insights to the grading process, which can lead to better understanding of the learning outcomes. Teachers need to provide rubrics or standards to the peer reviewers. The importance of referencing and citing work used should be emphasized with students with lessons on proper
ways of doing this. This can help keep students honest and emphasize the importance of giving credit to other writer’s work. Stein and Graham (2014) emphasize the importance of not giving students busy work to fill in course time requirements. They advised to let students focus on meaningful work and assess this. Technology plays a big role in assessment and can be used to give quicker feedback and allow more collaboration such as in peer assessment by using a collaborating tool such as Google docs.

The biggest challenge in blended learning assessment is to move away from traditional methods of assessment that may have worked well for the traditional classroom. These methods may not be as flexible in their approach in a blended model. Assessment needs to be more individualized and customized to the program or to the approach a student is taking in their learning. More individualized feedback that is more informal in its nature is very important.

**Conclusion**

In summary, blended learning is growing in popularity and use each year. Blended learning is still in its early stages with more schools implementing different models every year. Blended learning can provide students with more control over their own learning by allowing more personalization. Student engagement can increase because of personalization and more control over learning by the student. Most blended learning models fall into the main four categories of Rotation, Flex, A La Carte, and Enriched Virtual. These terms are still being defined and more research needs to take place on effectiveness of each model. Many schools use a blend of the four core models. Some schools use a combination of these models. Much can be learned by looking at what other schools have done. Over the next few years there will be more studies and research available to help guide schools to choose the best model for their situation and need. Arney (2015) predicted that blended learning will not be a term used in the future because it will
be more of the mainstream. She stated that it isn’t an end in itself but rather as a way to get to the classroom of the future.

An important part of blended learning is to consider how assessment practices should change to match the model of blended learning being used. There does not seem to be much research on assessment in blended learning for K to 12 schools. More research undertaken about assessment in blended learning seems to have been done for post-secondary schooling. Effective assessment is crucial to any type of learning model, therefore more research should take place on effective assessment in blended learning for elementary and secondary schools.
Chapter 3 - Procedures and Methods

Introduction

The BC Education Plan (update 2015) is moving BC education towards more personalized learning for students that allows more flexibility in how and where students learn. These changes being implemented over the next few years in the province will have an impact on many aspects of how teachers teach, how students learn, and how assessment of learning outcomes takes place. A shift to more personalized learning should also have a corresponding shift to more personalized assessment that may require different approaches to the traditional ways of assessment. As my school moved to a blended learning model implemented in September 2015, we also saw a need to move to directly assessing how learning outcomes were being met by the student. This would correlate better to personalized learning and a more flexible curriculum.

The purpose of this project was to provide a method of assessment that would better meet the needs of students and teachers in a blended learning model. A blended learning model can provide more flexibility in learning, therefore my school moved to a blended learning model in September, 2015. Blended learning was also implemented to try and match the objectives of the BC Education Plan (update, 2015). The plan calls for more personalized learning so assessment changes should be made to match changes in approaches to learning. Grade 9 was the targeted as the pilot for this project because of the new learning outcomes created for this grade that were optional for the 2015-2016 school year and to be fully implemented by the 2016-2017 school year. Grade 9 is the first year of high school in my school, therefore it is the first year that students are introduced to our blended learning model. The new grade 9 outcomes were used for this project because the school switched over to them in the 2015/16 school year. The subjects included for this project were Humanities 9 (Social Studies and English Language Arts...
combined), Math 9, Science 9, Physical Education 9, and Core French 9. Because I work in a small school, the sample size for this project was not large and consisted of 32 students and 6 teachers with myself being one of the teachers. Assessment templates were created for the grade 9 core subjects and were willingly used by the grade 9 teachers.

The journey to a blended learning model in the school has been over two years in the making and the journey will continue in the years to come as improvements are made in the future as we adapt to new technologies and better ways of learning. Thinking about improving ways of assessing has also been part of this process as we try to make learning more relevant and purposeful for our students.

**Major Project Development**

The first stage of this major project was to think about ways in which assessment can match a blending learning school model. The assessment tool would need to be collaborative in nature so it is easily shared among teachers and students because learning outcomes for a subject could be met in a variety of ways by the student. An example of this would be a student meeting a Physical Education learning outcome outside of school by playing on a community sports team. Another way could be a student who is involved in project based learning that combines several subjects and meets learning outcomes in different subject areas within the one project. Another factor that was considered for this project was attempting to involve students more in the assessment process. Therefore the tool used would need to be in a shareable format with students and multiple subject teachers.

Since my school uses Google Apps for Education, I decided to use Google tools that were accessible to teachers and students alike. Google Sites was chosen as a website tool for student use and Google Sheets was chosen as the tool for teachers tracking the learning outcomes and
giving a grade for each one. These tools are collaborative in nature so they are easily sharable with others.

**Student Website.** Google Sites was chosen as a website tool for students to use because my school uses Google Apps for Education. Parents and students were required to sign an Acceptable Use Agreement that included a parent backgrounder that describes the use of Google Apps for Education and the many tools that fall under its umbrella. Another reason Google Sites was chosen was to have students learn how to create a website that could be shared with their teachers and be used for a celebration of learning at the end of the school year. In this celebration, the hope was that students could see evidence of what was learned over the year and have it compiled in one place that was shareable with others including teachers and parents.

I created a website that was an exemplar for students to look at and copy for when they created their own site (Learning Outcomes Website). The exemplar included instructions on how to create a Google Site. It also included links to video and written instructions found online for students who preferred to learn that way. It allowed for deeper knowledge of web site creation and design for those who wanted to go deeper with it and who had the time and the motivation to do so. I then created separate pages for each of the subjects that were part of the project. This included a page for Humanities 9, French 9, Math 9, Science 9, and Physical Education 9. In each of the pages, a table listing all of the learning outcomes for the subject was included. Part of the table included a column for the student to rate their learning on a five point scale. This scale included descriptive words taken from the high school report card. These descriptors used five words that were: limited for a 1, developing for a 2, meeting for a 3, achieving for a 4, and excelling for a 5. A column was included for the student to provide evidence for how they met
the learning outcome. This evidence could be in the form of a link to a document, a test score, a photo, or whatever method the student decided to use to show it.

The intent of having students use this table in a web site was to encourage them to be more involved and give them the opportunity to reflect on what they were learning and possible reasons for learning it. It was meant to cause the teacher to be more intentional about the learning outcomes they were teaching and the flexibility that teachers have in how students meet the outcomes. Its intent was to increase the emphasis on learning competencies and less focus on content (BC Ed Plan, 2015). It was intended to help increase communication between students and teachers about assessment of an outcome in which the teacher assessment can be compared with the student self-assessment. The hope was to allow students to be more involved in their own learning where they might feel like they have opportunities to have more dialogue in the process of grading.

**Teacher Assessment Template.** Google Sheets was used to track assessment of learning outcomes by the teachers. Sheets was used because of the school use of Google Apps for Education and allowed for the spreadsheet to be easily shared with the teachers involved in the study. A template (Humanities 9 Learning Outcomes) was created by another teacher at the school and was adapted to each of the subjects within the project. The BC grade 9 learning outcomes as of August, 2015, were inputted into the template. Competencies and content each had a different sheet within the course spreadsheet with a summary page used to tabulate the marks from all the outcomes. The default was for each outcome to be weighted the same. Teachers had the option of changing the weightings of each outcome but none chose to do so at the time of introduction.
The same 5 point scale that was used in the student websites was used again in the template to maintain consistency. This scale was also used in the high school report card. A column for notes and comments was included to allow teachers to give reminders or notes to themselves, or for their students to read at a later date. The intention of the template was to be shared with students on a view only basis. This was to allow students at any time to view their progress, and to feel like they knew where they were at with the assessment of each outcome with the option of improving the grade to fully meet the learning outcome. The goal of this was for students to take more ownership of their own learning. A learning outcomes template was created for each of the subject areas and shared with the grade 9 teachers who were involved in the project.

Major Project Delivery

Teacher Assessment Template. The teacher assessment templates were shared with the grade 9 teachers who were teaching grade 9 at the beginning of the 2015 school year. They were asked to use the template for several reasons. First, to assess directly to the learning outcomes. Second, to be intentional about communicating with students on how they were meeting the learning outcomes. Third, was to collaborate with other teachers who were teaching the same subject, so that teachers were similar in their approach to assessment in the same subject areas. The exception to this was in French 9 where there was only one teacher for this subject.

Teachers were allowed to change the wording of the outcome, combine Ministry of Education outcomes, or include outcomes generated by themselves. Teachers were also allowed to add their own learning outcomes to the template that were not generated by the Ministry of Education but ones they felt were important to include.
The teachers of the project were asked to let me know about any questions and
difficulties they might have in using the template, to make sure that they knew how to use it. A
Google Form was given to the teachers of the project seven weeks into the school year, in order
to receive peer review. Google Forms automatically compiled the data into a Google Sheet. The
answers to the Google Form questions were valuable and insightful.

**Student Website.** The exemplar website was shared with the grade 9 students on the
second day of school. They were given time to create and design their own websites that
included the learning outcomes from the courses in the major project. Another teacher and I were
available to help them with any questions or difficulties in getting started. The students were
encouraged to personalize their website and were told not to share them in the public domain.
This was done to protect student privacy so their personal information would not be in the public
domain. Since the websites were created under the domain of the school in Google Apps for
Education the viewing of the site was limited to those in the school domain. Most students were
able to create their own site without much difficulty.

In the fourth week of school, a check in was completed by the same two teachers about
how to use the website and to see if anyone was using it. Students were given time to complete
self-assessments in their websites and to ask questions of the teachers. Websites were checked by
the teachers to see if they were complete and being used. The sharing settings were also checked.
Students were encouraged to use this site for other aspects of their learning such as other subjects
not in the major project, for blogging, for recording progress for any Independent Directed
Studies, or for other school purposes. The website was to be a summary of their learning for the
year and they were to use it to make a presentation at year end using the pieces of evidence of
learning documented as a celebration of learning in their grade 9 year. I inquired of the teachers
in the study if they were encouraging students to use their web site to record their self-assessment of learning and including pieces of evidence for their subject areas.
Chapter 4 Field and Beta Testing and Findings

Methods and Process

The goal of this Master’s project was to analyze how in implementing a blended learning model at my school, a correlating change in assessment practices needed to take place to match the model. The new blended model was implemented to better personalize learning by giving more choice to students in how they meet the learning outcomes of the various courses they were taking. It was also implemented to try and make learning more relevant for the student. Keeping choice in mind, students should have more freedom to decide how they will meet the learning outcomes and this would require assessment practices that assess directly to the learning outcome. This approach to learning was also an attempt to better meet the objectives of the B.C. Education Plan (Update, 2015), which promotes personalized learning that is more relevant. More ownership of learning is given to the student than what was done in the past, therefore a different way of assessing to the new model was needed.

Along with the implementation of a blended learning model in September, 2015, an assessment template, as described in chapter 1, was introduced and shared with the grade 9 teachers at the same time. A Google Sheets assessment template was created for each of the courses being used within the project testing margins. The template included the learning outcomes for each of the courses and was divided into competencies and content. Within the study, students were to develop their own web sites that included the same courses and outcomes. The purpose for this was for students to track their own learning and self-assess how they thought they were doing. This could then be compared with the teacher assessment. The hope was to get the students more involved in their own learning and to understand better the
learning outcomes that were being taught and learned. They were also to provide evidence of their learning by providing links or comments about how the learning outcome was met.

The intention of the websites was also for a celebration of learning at the end of the school year in which the student would choose a number of outcomes and present what was learned in fulfilling them. Celebrating learning is something we wanted to do more in the school.

Seven weeks into the school year, a Google Form was shared with the five teachers who were involved in the project subject areas of grade 9. The questions in the form focused on the effectiveness of the assessment template in helping to assess learning. The responses were returned over a two week period and through Google Form, automatically collated into a Google Sheet (Appendix B). The questions in the form asked for feedback on the overall effectiveness of the assessment template, what was useful, what was not useful, did it help the learner be more involved in their learning, and did they encourage their students to use their web sites. At the same time personal observations were made by looking at half of the student websites (which had been shared with me by the students) to see how well they were being used.

**Findings of Beta Testing**

This part of testing was done through the Google Form which was chosen as simple and quick way to receive feedback from the teachers involved in the testing. The feedback was crucial to evaluating how effective the assessment template was working for teachers in assessing outcomes in a blended program. All five teachers involved in the project responded to the Google Form survey. Four out of five teachers gave the assessment template an overall rating of 8 out of 10, with one giving a 5 out of 10 for its effectiveness. All teachers thought it was good to have a document tool that focuses on the learning outcomes in assessing learning. They appreciated having the outcome listed right next to the mark given to help them keep track of
what they were assessing. They also thought it made it easier to assess growth in the learner. Three out of the five mentioned that it was easily shareable with the students, so the students knew directly how they were being assessed and for what learning outcome.

The third question in the survey asked what changes could be made to make the assessment template more effective. This will be addressed further in Chapter 5. One of the suggestions stated that not all outcomes were equally valuable. The current template had all outcomes worth the same with equal weight in terms of a final grade. Another comment made was that some of the outcomes were fluid or progressive. Some outcomes are not fully met or completed until the end of the course. This would be especially true for many competency learning outcomes found in the new grade 9 curriculum. Another comment was made about the difficulty some students might have in understanding what the outcome meant. Some outcomes were too lengthy and hard to understand and may need rewording in simpler language for better student understanding. This can be important. In order for students to make good choices about how they want to meet a learning outcome they need to understand what the outcome is about.

One teacher asked for another column in the template for students to include their self-assessment piece right on the template. This would allow for easy comparison of what the student thought they deserved for a mark compared to the teacher’s assessment. This could allow for better conversations between teacher and student on assessment and might better influence future learning. All of the comments for improvements were useful and valid and were addressed directly to the purpose of creating the assessment template in the first place.

The next question asked about the effectiveness of the assessment tool as a means of communicating marks and progress in learning with the students. At the time of the survey, three of the five teachers had not shared the assessment tool with their students. They indicated that
they were still planning to share it in the near future. Two of the five teachers had shared the template with their students and had found it very effective in letting students know their progression in meeting learning outcomes. One commented that when they showed the assessment tool to the student and went over the outcomes with them, they started to understand better the whole idea of learning outcomes and what is required for learning in the course.

All five teachers responded in a similar way to the question that asked about how well the assessment tool helped engage the learner in their own learning. They commented that it is still early in the school year and since all grade 9 courses are linear (all year), only a few outcomes had been covered at the time of the when the survey was completed. They also noted that students needed to get use to the new model and new way of assessment. Many of the students did not fully understand the assessment practices and methods. It is a culture that needs to be created over time and better understanding likely will happen with continued interaction between teachers and students over assessment and how well students are meeting the learning outcomes.

Four out five teachers responded that, given the choice, they would continue to use the assessment tool. One teacher stated that with modifications she would use it, but as is, she did not see the tool as helpful. She did not give reasons for the reluctance of use in her answer to this question and the question did not specifically ask for reasons. For those who were positive about it, some reasons were given with their response. One said, “I love the organic nature of this, with so many ways to demonstrate skill level, besides a series of marked assignments averaged out.” Two others stated that it should be continued to be used and that they see over time that it would likely continued to be improved.

When asked whether this assessment template should be used in grades 10 to 12, four responded with a definite yes. The fifth responded that it could be used with modifications. One
teacher stated that it would be a step backwards if the current grade 9’s returned to an old way of assessing in their grade 10 year. A few of the teachers already were using the assessment tool in some of their grade 10 to 12 classes and had adapted it themselves or had asked me to adapt the assessment template to match the learning outcomes of these courses. The grade 10 to 12 adaptations were mostly happening in science and math courses.

The last question of the survey addressed the use of student websites and how much direction or encouragement the teachers have given to students to use it. Two teachers indicated that they felt students had a better understanding of the outcomes covered so far because of the student websites. The other three teachers responded that they have encouraged students to self-assess on their websites but may not have directed the students to their website during class time. Based on my observations of the student websites, if not given class time and direct instructions to self-assess, most students would not use the website. In Humanities 9, students were required to self-assess the learning outcomes covered as part of their self-assessment piece at the end of a unit and/or assignment.

At the time of release of the Google Form survey, personal observations of half of the student websites were done to see how much they were being used. Most students were using the website to track the learning outcomes for only one course. This was the course that I was teaching. Class time was given for the students to record their assessments and to provide evidence of learning on their websites. That the websites were being used only in my class was understandable as this was my study, therefore my awareness of student websites was likely greater than that of the other teachers in the project study. At this time, other teachers had not given class time for students to give evidence of learning in their websites. An awareness of the websites might have been forgotten from the start of the year, when it was introduced to the
grade 9 teachers, due to all the new things teachers in the study had to keep track of. Teachers were involved with implementing a new blended learning model that required a different approach to lesson planning. Also, three of the five teachers in the study were new to teaching grade 9 in the school. After looking at the student websites, the teachers were encouraged to give class time for students to fill outcomes being met and to remind their students to track their learning and about them. The last question in the survey also brought more awareness to the websites again. Student websites were checked two weeks later. They were being used more, but not by all students and not for all subjects. This is something that will monitored, with more reminders given to teachers over the course of the school year. Based on answers to the usefulness of student websites, it seems to be something that teachers see as a useful tool to be used in the future and something that should be kept and developed further to help students understand learning outcomes better and to be more self-aware of how they were progressing.

Summary of Findings

The first seven weeks of testing the learning outcomes assessment template have been mostly a positive experience based on the responses to the Google Form survey and the conversations with the teachers in the study. Of the five teachers that were using the template in the beta testing, four were positive about it and one was not. The one who did not really like the template did not outright reject it but suggested modifications were needed to make it easier to use for the teacher. She wanted something that was easier and more adaptable to use. Using Google Sheets made it easier to share the template with students and other teachers since Google Apps for Education is used in the school. Teachers were able to use Google Sheets to meet the main needs of the template.
All the teachers agreed that teaching to learning outcomes and assessing directly to them is something that the school should be doing in every high school grade in the future. They stated that with some modifications this can be done well and that students would be able to be more involved in their learning and in the assessment process.

I am grateful to the grade 9 teachers who were willing to use the assessment template for the school year and for their detailed responses to my survey. Their feedback was very helpful and will be used to guide future improvements and direction in meeting the learning needs of students. Their feedback was mostly positive and was definitely valuable. Their responses will be taken into consideration when the school looks at the new curriculum guidelines that will be issued and implemented for grades 10 to 12 over the next two years.
Chapter 5 – Conclusions and Recommendations

Conclusions

The rapid change in technology in education is transforming teaching and learning practices. Traditional teaching must change in order to prepare our graduating students from high school to meet the demands of today’s employers. Building processing skills that include critical thinking, problem solving, collaborating, and communicating are becoming more valued. These skills along with flexibility in programming for the individual student are key components of the BC Education Plan (2015). The Education Plan, along with curriculum changes, place greater importance on competencies and on more personalization of curriculum for each student. As a result, under this plan, the teacher’s role must change. The teacher is no longer the one who controls all the learning but must become the facilitator that allows flexibility for students to meet the learning outcomes in other ways. A blended learning approach is one way of providing innovative change to the traditional school. Part of this change that needs to be considered is the role assessment plays in a blended program. Changing to a blended program should also have a corresponding change in assessment practices to adapt to a different way of learning.

The blended learning model implemented in the school is a one way to implement the BC Education Plan (2015), which allows for personalization of learning for each student. The advantage of a blended learning model is that it can take place anywhere, and anytime, not just in the classroom (Horn and Staker, 2013). It allows the student to take control over their own learning in when, where, how, and what they learn. Implementing a new learning model was not an easy task and required a shift in thinking and pedagogy for most teachers, especially teachers who have been teaching for years. A new approach to assessment was only part of the change to a blended model, yet an important one. However, because a school adopts online learning and
alternative approaches to learning and assessment does not guarantee that learning will be personalized (Horn and Staker, 2015). The goal in moving to a blended learning model was to personalize learning in order to provide more relevant and meaningful experiences for our students. It is important to remember that part of personalizing learning includes personalizing assessment.

The intent of this project was to look at how assessment could be used in a student-centered blended learning model. This project recognized the fact that there are numerous ways for students to meet learning outcomes, and that it is important to acknowledge choice and personalization for the learner. Therefore, there needed to be a corresponding flexible approach to assessment. The project goal was to present a method that would be used in grade 9 for the 2015/16 school year as a pilot. Through the first quarter of the school year, this goal seems to have been met. Assessment was directly correlated to the learning outcomes of each of the core subjects in grade 9 with the new BC learning outcomes being used in the study. These new BC learning outcomes were optional for the 2015/16 school year and mandatory for the 2016/17 school year. Where traditional methods of assessment might include a percentage for assignments, test, participation, and some other categories, these categories were not used in the project, however a mark for the student was directly based on how well they have met the learning outcomes.

Project Summary

Since the project included only five other teachers in the study, it was crucial to get data from all of them. After seven weeks into the school year, the survey was shared and responded to after two weeks. The overall responses were positive to assessing directly to the learning outcomes. No beta tester outright rejected the use of the assessment templates and student
websites. All of the beta testers thought that assessing directly to learning outcomes was a good idea and a positive step in their assessing methods.

There were a number of suggestions made to improve the assessment template that will be summarized in recommendations. Since the assessment template was used at the start of the year and shared with students, it was difficult to make changes during the school year. The assessment template had not been shared with an expert IT person and was mostly developed by the school principal with adaptations made by myself. It filled the needs of assessing for this school year. The challenge for the future is to continue to critique what we do and to strive to improve on the foundation of what has been started.

Recommendations

The focus of this project was to improve assessment practices in a blended learning model for the school of my employment. Since the blended model emphasized new ways of learning that allowed for more flexibility and personalization, assessment practices needed to parallel these changes. This project was designed primarily to implement assessment practices that reflected the learning model implemented at the start of the school year. Therefore, this project was internally focused on what was happening at my school. There have been many changes at my school over the last five years. With these changes, continuous reflection and analyzing of practices should be done on a regular basis. My school should continue to critique our assessment practices in the years to come to make sure it reflects changes in pedagogy. After reviewing the survey responses from the beta testers for this project, the following recommendations were considered.

The assessment templates for each of the subject areas in the study were created by myself following a model that was created by the principal of my school. They were then shared
with the beta testers at the beginning of the school year. The language used for the learning outcomes came directly from the BC Ministry of Education curriculum guides (2015) for grade 9. Since the assessment templates were meant to be shared with students, one of the beta testers suggested changing some of the language to make it more understandable to the students. This was a great suggestion, because if you are encouraging and allowing students to explore other ways of meeting learning outcomes, they need to understand what the outcomes are. Teachers were given the freedom to change the language to make it more suitable for their students as long as it did not take away from the original intent of the outcome.

All outcomes were given equal value in the assessment template. This was done to keep it simple and manageable. One teacher commented that they would like to change the value of some of the outcomes because they felt that some outcomes were more emphasized in the curriculum than others. Formulas in the assessment template would have to be manipulated to be able to do this. This is easily possible in Google Sheets, but a little more labour intensive. Individual teachers have the freedom to adapt the templates to their liking as long as they understand how to manipulate Google Sheets, and do not stray away from the original intent of the learning outcome. Changing the value of some outcomes may be more important in certain courses over others. For example, Language Arts might have a greater value placed on editing, proofreading and grammar skills because this is something that is part of every written piece of work in the course. A change in values of different outcomes was not something that was initially considered but this can be manipulated in the future. As already stated, the individual teacher could do this on a needs basis for their courses.

The new curriculum introduced in 2015, is divided into two categories of learning outcomes. They are content and curricular competency. Within the assessment template they
were separated into the two categories for each subject area. One thing that was overlooked was what weighting to give content and competencies. For the first quarter report card, each was made of equal value. Further conversation among my colleagues needs to take place about what is the best way to give weightings. One category could be given more weighting than the other if a teacher wanted to emphasize one category of learning outcomes over the other. A better understanding of core competencies of the new curriculum would be beneficial in determining this. Another consideration is to make all outcomes of equal value, so if there are more competency outcomes it would have higher value towards the final grade than the content outcomes.

Some of the learning competencies are progressive in nature; meaning that they could be in progress for much of the course. A way to show that an outcome is in process would be a good addition to the template. A suggestion by one of the beta testers was to add a column to the template in which it could be checked off that the outcome was in progress. This would then be communicated to the student through the template.

When asked in the survey whether a similar form of the assessment template should be used in grades 10 to 12 in future years, four out of five responded with a yes. One viewed it as a step backwards if the current grade 9’s went back to previous assessment practices. Therefore, it is recommended that a similar assessment template be used for all high school grades in the future, especially as new curriculum is introduced in BC over the next couple of years for grades 10 to 12. Some teachers in grades 10 to 12 are already using a form of the assessment template. This is primarily the case for science and math teachers who generally have more specific learning outcomes to cover.
The student websites, at the time of writing, were not being used effectively. There was not enough data collected to fully assess the success of the websites. It is recommended that greater emphasis be given to the student websites by the teachers. It could be used as part of a reflection piece on learning after an outcome is completed. This can happen at the end of unit or an assignment. Without more teacher encouragement, the websites would not likely be used much in the future. A lack of effective use could have been due to the number of changes, for teachers, at the start of the school year. These websites were possibly not seen as important by teachers or may have been forgotten because of all the other new innovations that were happening as the blended learning model was implemented. More discussion amongst the grade 9 teachers needs to happen about the use of student websites. This discussion should include whether teachers feel the websites are useful enough that they would encourage students to use them and whether it is part of teacher assessment. It was hoped that the websites would be used to document evidence of learning, in a form of an e-Portfolio, to be used in a celebration of learning at the end of the school year.

Summary

In reflecting on the overall project and the changes undertaken at the school there are two concluding statements I want to summarize with. First, the comments given by colleagues showed that the project assessment tool was of value and that the teachers of the beta testing would not want to go back to the previous ways of assessing. Secondly, the assessment tools have significant potential for the future and should be used in a similar format in all grades of high school. The assessment tool is still a work in progress and has not been shared with an IT person who knows more about programming. I would like to share it with someone who has more technology skills, who could create an assessment tool that is more effective to manage,
but at the same time is easily shareable with students. The assessment tool has met the individualized assessment need of being able to personalize student learning and helps give students more flexibility in their learning. It gave the teacher a means of tracking the progress of learning when students have chosen different ways of meeting the learning outcomes. With time, as teachers and students become more familiar with blended learning, more students will likely take advantage of the flexibility offered to them. The blended learning model and the role that assessment plays in this model will have much scrutiny over the next months and years as the school strives to provide better learning opportunities and encourage our students to become lifelong learners.
References


doi: 10.1016/j.iheduc.2004.02.001


Launer, R. (2010). *Five assumptions on blended learning: What is important to make blended learning a successful concept?* Berlin: Springer Berlin Heidelberg. doi:10.1007/978-3-642-14657-2_2


Appendix A

Assessment Templates for Humanities 9, Math 9, Science 9, and French 9

This template is used for assessing the learning outcomes for Humanities 9, which is a thematic approach to Social Studies 9 and English 9.

Link to [Hum 9 assessment template](#)

Screenshot samples:

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Math 9 Assessment Template.

Link: [Math 9](#)

Screenshot samples:
### Science 9 Assessment Template

The link: [Science 9](#)

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<th>Notes/Comments/Evidence</th>
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<td>Demonstrate a sustained intellectual curiosity about a scientific topic or problem of personal interest</td>
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<td>Make observations aimed at identifying their own questions, including increasingly abstract ones about the natural world</td>
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<td>Formulate multiple hypotheses and predict multiple outcomes</td>
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<td>Meeting</td>
<td>Achieving</td>
<td>Excelling</td>
<td>Notes/Comments/Evidence</td>
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<td>Collaboratively and individually plan, select, and use appropriate investigation methods, including field work and lab experiments, to collect reliable data</td>
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<td>Assess risks and address ethical issues associated with their proposed methods</td>
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<td>Select and use appropriate equipment, including digital technologies, to systematically and accurately collect and record data</td>
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<td>Processing and analyzing data and information</td>
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<td>Seek and analyze patterns, trends, and connections in data, including describing relationships between variables and identifying inconsistencies</td>
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<td>Use knowledge of scientific concepts to draw conclusions that are consistent with evidence</td>
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French 9 Assessment Templates

The link: [French 9](#)

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<td>4. past, present and future timeframes</td>
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Appendix B

Student Website Model

Students were given instructions on how to create their own websites within Google Sites. A sample website was created that gave instructions on how to create their own website and the requirements of what to include in it as they create it. They were encouraged to create their own design and to make it their own.

Link: [Student Website Model](link)

Screenshot samples:
Math 9

**Big Ideas:**
1. Numbers can be represented in many forms and reflect different relationships.
2. Data enable us to draw conclusions and make predictions in an unstable world.
3. Geometry and measurement empower us to make meaning of the world.
4. Numeracy helps us to see patterns, communicate ideas, and solve problems.
5. We can apply mathematics to inquiry questions and use it to communicate information and data.
6. Patterns allow us to see relationships and develop generalizations.

**5 point scale for Assessment/Achievement:**

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<td>Demonstrates satisfactory achievement, shows foundational understanding and achievement</td>
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**Curricular Competencies:**

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<th>Assessment/Achievement (Scale 1 to 5)</th>
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<td>Engage in problem-solving experiences that are connected to place, story, and cultural practices relevant to the local community</td>
<td>Implement multiple strategies to solve problems in both abstract and real-life situations using different cultural perspectives</td>
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<td>Develop and apply mental math strategies and estimate amounts and outcomes</td>
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<tr>
<td>The mathematical concepts to support</td>
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Appendix C

Beta Testing Survey Form

This Google Form was used to survey the beta testers.

Link: Grade 9 Assessment Templates Beta Testers Google Form
Appendix D

Beta Testers’ Survey Responses

Responses on Google Forms are collated into a Google Sheet. A screenshot of it is below.

Link to the responses is: Beta Testers’ Survey Responses