Barrier and Challenges to Project-Based Learning… and How to Overcome Them

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**Abstract**

The world is a dynamic and ever-changing place to live with increased globalization and technology. Students need to be creative and critical thinkers in order to solve the problems of tomorrow. Manitoba education has a mission to provide all students with relevant, engaging and high quality education. So this begs the question, how is this done? Project-based learning is a student-centered approach (subset of inquiry-based pedagogy) where the teacher or facilitator pose a question, scenario or problem to students. Students research (or inquire about) information and collaborate with others in order to resolve the question or investigation and within this process meet curriculum outcomes. This method has been shown to provide greater student engagement by providing real-world application and purpose often with a cross-curricular approach and preparing an authentic end product. Some of the questions that the author of this paper explores are: Why don’t we allow our students to experience project-based learning? Is it because we don’t know the benefits? Is it because our hands are tied with standardized testing? Is it because it is discouraged by our administrators?

The first piece we need to start with is addressing the fear of the unknown. This can be accomplished by starting small and experiencing it for ourselves. The author had the opportunity to discover project-based learning in their education through an assignment where one had to learn about something they wanted to know more about. This method of inquiry allowed exploration into the author’s own personal learning theory and aided in merging theory with practice.

Many students are currently unengaged in secondary school, so assignments (or projects) need to be of interest to them. This could be facilitated in schools by showing them the real-world application of a concept to entice them to learn more. Another option could be to give the student choice, as they may be more interested in something when they can direct their learning. There has to be this interest to start, or how to we sustain our students through the inquiry process? Second, students need to be given time to research in a way they are comfortable with. This could entail Internet research, discussion with family and/or friends, trial and error and/or hands-on application. This is an important step in inquiry-based pedagogy. There are a variety of learning styles in classrooms and it is important to recognize this for project-based learning. Lastly, students need time to experiment and reflect with their work to make it meaningful and memorable. This will also allow important feedback for students to refine and review their process. Student involvement and engagement are key components to student-centered learning to sustain them through the inquiry process.

Teachers are comfortable being the holder of information. Inquiry-based pedagogy shifts the paradigm from teachers as lecturers to teachers as facilitators. The student “brain processes different types of learning through different pathways, so it is important to provide many cross-curricular links to connect all content” (Force et al, 2016, p.4). Students quickly forget most of what they have been taught through lecture so other methods need to be incorporated. There is still a tremendous need for teachers to help guide this process as they need to be masters of curriculum knowledge to know if each project that is student-chosen will provide the necessary rigour to fulfill curriculum guidelines (Force et al, 2016).

Teachers need to provide formative assessment along the way to guide, support, and possible redirect students with their individual projects. This formative assessment could and should look different for every learner. Learning-by-doing provides so many amazing outcomes for our students but teachers need to be patient, encouraging, and try to not overstep their boundaries for inquiry-based pedagogy. Learning-by-doing facilitates critical-thinking by students deciding what they need to know, and when they need to know it. This is of utmost importance in today’s society for students to learn how to troubleshoot unknown or unexpected problems. Creativity, laughter and curiosity are highest in students of kindergarten age, so we need to sustain these traits throughout their learning.

Another obstacle in project-based learning is blurred curriculum content between subject areas. Are timetables, teachers and workspaces flexible to allow for an alternative approach in the classroom? Katz reminds us that “all students want a sense of security, community and to be part of something meaningful” (Katz, 2012, p.10). The author suggests that curriculum in itself is not meaningful unless students are shown the purpose of the information and make connections to real-world application. So despite the challenges to such learning; administrators, teachers and students need to move towards student-centered pedagogy for enhanced learning opportunities that will serve the students well in the future. This will also lead to the desired soft skills alongside the curriculum content. Schools are in a unique position to offer such learning as the materials and human resources are already located within the school and community. There are schools in Winnipeg (and elsewhere) that have already implemented such approaches to teaching including the MET School in Seven Oaks School Division. Here, the students work for 75% of the day (three days per week) on projects that cover multiple curriculum areas. As these schools are new, the effectiveness of such approaches (both academically and financially) is still being researched (Katz, 2012).

Inquiry requires much effort on the part of teachers, administrators, parents and the students themselves to facilitate and answer the questions raised but if such an approach improves student learning, engages more students, or makes the education rich and meaningful, why not try? Do we not tell students to think outside of the box? The Literacy with ICT continuum serves as a framework within Manitoba education to infuse technology into curriculum K-12, and it too, has met its fair share of struggles. Some of these struggles or barriers that we can extrapolate to project-based learning are that it is important to start small, have mentors for teachers, and to share success stories across school divisions.

It is difficult to discuss a shift in education without addressing a shift in assessment practices. Manitoba is not alone in the debate of standardized testing versus individual autonomy. There is a case to be made on both sides. Centralization allows for consistency and standardization while autonomy allows for creativity and diversity. Perhaps we can combine both approaches. If our centralized standards are benchmarks upon which the minimums standards a school must provide, then we can give teachers the remaining amount of time in autonomy. Project-based learning can facilitate this. Teachers need to collaborate to discuss project rubrics, and be prepared to give a great deal of formative assessment along the way to ensure students are accomplishing curriculum outcomes. However, when teachers “use instructional strategies that promote independent learning in classrooms it inspires students to acquire the intrinsic skills and attitudes necessary to become self-motivated, self-regulated, and lifelong learners” (Keston, 2016, p.12) so one can understand the benefits far exceed learned curriculum content.

Perhaps the biggest benefit to project-based learning is that it facilitates learning for all. “All students should have the opportunity to learn and grow in schools alongside their peers” (Katz, 2012, p.6). Project-based learning can support the standard of inclusion by acknowledging not everyone has the same level of scaffolding, and therefore not everyone will be doing exactly the same task. “Education must develop the whole child and cultivate all the skills, attitudes, and knowledge necessary for a person’s successful integration into society” (Katz, 2012, pg. 5). This sentiment can be accomplished in part through collaboration which schools are in a unique situation to provide as this social interaction is necessary for project-based learning while adult supervision is present and unbiased.

Some students are bored in secondary school and this could be because they don’t see the purpose. At other times, it may be because it is not at their level, which could be too easy or too difficult. Project-based learning can allow for multiple levels of learning at one time without any stigma. How many times do our students feel ashamed when they get labelled “modified”, or when gifted students feel alienated when they get more homework because they finished so early? Katz also emphasizes that learning cannot be separated from living. Teachers cannot be fearful of everything that it fails to address the real issues of students’ lives (Katz, 2012).

Projects facilitate multiple learning styles as we all learn in different ways, one student may be research their project while another is creating a hands-on demonstration of their work. Whatever the learning style, students can enjoy and feel proud of their efforts without fear of any stigma or judgement. If 80% of our learners are visual, why can’t they make, create, reflect, analyze, taste, and direct their learning? Project-based learning can make education personalized, and memorable by engaging students in meaningful and purposeful ways. Perhaps time savings can be achieved through reduction in review hours, test creation and marking. Teachers need to be move towards forms of inquiry-based pedagogy by learning more about the subject, challenging assessment strategies, and starting small. The benefits to student learning are well worth the effort.

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**References**

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