Project-Based Learning as a Key to Student Success

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Abstract

This paper focuses on project-based learning (PBL) in the classroom. Though it isn't a new concept, PBL is an integral part of the future of education. It is an effective practice which, not only opens doorways for greater retention of information and skills, but also has the potential to change students' attitudes about education for the better. Using research from educators and other learning professionals, this paper explores contemporary uses of PBL in the classroom, and this specific type of learning benefits student achievement by creates unique and relatable learning experiences. Possible hurdles to larger acceptance of PBL and possible fall backs are also examined.

Keywords: *Project-based learning (PBL), authentic/authenticity, curriculum, collaboration, motivation*

Introduction

With each generation, the learning landscape is reshaped. Teaching philosophies and practices evolve to accommodate the new rise of students - to meet their interests in the ever changing world they live in. Education has long evolved past simply retaining information, now more so than ever. With the rise of technology, today's students, and future generations of students, are growing up with almost any information they could possibly want to know, readily

available - at their fingertips and in their pockets. Attitudes are changing and students are more vigilant than ever in examining the value of their education. With the vast wealth of information available to them via their phones, students need to see how their classroom education can benefit their future beyond simply absorbing new information or learning a new skill. Students need to see the value in the work they put into their education.

How do education professionals meet this need? How do they show students the value of what their learning? One trend that is currently being pushed is authentic learning experiences - providing students with opportunities to learn that relate to their everyday life. As Sloman & Fernbach observe, "skilled teachers and learners know that simply listening to lectures, mindlessly manipulating symbols, and measuring facts are not the best way to learn. Activity is required. We learn what we need to know to take the actions necessary to accomplish our goals." (2014). This is where PBL reveals its' value. With PBL, students are given something to care about beyond a letter grade. PBL encourages teachers to find a means of helping students learn, and measuring their success, that also results in a final project that is meaningful and specific to each students. Students have much more opportunity to personalize their projects and adapt them to their specific interests; they also have a tangible result of their work. PBL is a great way to incorporate real world learning experiences into education and encourage students to care about what they've learned.

How Project-Based Learning Can Be Used In the Classroom

Visual Arts Classrooms

Some classrooms lend themselves more naturally to PBL than others. Creative fields, such as the visual arts, almost always use project-based assessments to measure student learning. Though other types of assessments should certainly be incorporated in visual arts classrooms,

any student who found themselves in a visual arts class that measured learning solely with papers and written exams, would be rightly confused and disappointed. The reason PBL is so integrated into visual arts classrooms, is because it is the logical way to measure learning that occurs within that curriculum. A test can determine whether or not a student has memorized the elements of art or the colors on a color wheel, an essay can help students explore why a specific theme or symbol carries the meaning that it does; but a project that requires students to apply the skills and knowledge they've learned, think about *how* and *why* they are using what they've learned, and allows them to adapt the project to be meaningful to them, is an assessment that can most effectively measure learning of art concepts.

PBL is used in visual arts classroom to measure student learning while allowing for autonomy and creative problem solving. In a typical art class, students are often given a concept and/or skill they are asked to learn. They are given an introduction to this idea or skill, then they are given several smaller opportunities to practice this skill. Finally, if the idea is something larger students are being asked to focus on, they are presented with project requirements they are expected to complete. This project will ask students to demonstrate their skill and apply the ideas or concepts they were studying. Most importantly, these projects provide students with a sense of autonomy and independence, encouraging them to personalize their projects to be meaningful to them. Detailed rubrics should be given to students before they begin their projects so that they know what they are being graded on, what skills and ideas they need to demonstrate in their project, and where the teacher is looking for artistic expression. It is also important with any art project, to require an opportunity for self-reflection by the student - whether that be formal and written, or an informal verbal presentation or conference.

Project-Based Learning in Other Content Areas

Though the visual arts are often not given as much weight as other subjects in the secondary education curriculum, the skills and concepts mastered in an art classroom can certainly be transferred to other subjects - especially where PBL is concerned. The set-up described above can be translated to any subject: 1. Introduce a new skill or concept, 2. Allow students to practice that skill or study that concept, 3. Provide a rubric that clearly lays out how the project will be assessed, 4. Require a self-reflection upon the project's completion. None of these requirements are difficult to incorporate into a unit, regardless of the subject. Kara Wyman writes that by providing meaningful real world connections, providing opportunities for team building and putting in time for experiential learning the most product experiences can be held, (2017).

Boaler compared the achievement from a math class in two similar British schools. One of the schools was utilizing traditional instruction while the other school was PBL centered. After three years of observing and comparing, the students in the PBL school outperformed the traditional instruction students not only in math, but also in conceptual and applied knowledge (2002). The students in the more successful class were taught in the PBL-centered classroom. Just as is the goal in traditionally PBL-centered content areas, both conceptual knowledge and applied knowledge improved greatly thanks to the PBL model. When students are taught to simply regurgitate an answer to a problem as fast as possible, it doesn't do anything to expand upon the students problem solving abilities. If there is only emphasis on the correct answer, all creativity and potential originality is reduced, (Awang & Ramly, 2008).

Benefits of Project-Based Learning

Authenticity

Though there are many benefits to using PBL in the classroom, perhaps the greatest strength lies in creating an authentic learning experience for students. This is a trend that is currently rising in popularity in many school districts. Teachers and other education professionals are looking to create learning experiences that, are not only relevant to student's lives outside of the classroom, but that teach them skills that can be used outside of an academic environment - beyond graduation. Outside of academia, there are very few instances in which someone needs to take a test in order to complete a task or achieve a goal (though there are some exceptions such as driver's license tests). An essay is slightly more relevant, as writing resumes or letters can be very useful in everyday life beyond school; but still, writing essays they way students are required to while in school is not a way that goals are *usually* accomplished outside of a school environment. In real world scenarios, both in work and in life, people are often charged with completing tasks or projects, not taking tests or writing formulaic essays. When structured correctly, PBL teaches students skills that will help them accomplish their goals beyond their school environment. The main concept about PBL is the inclusion of more real world problem solving activities to help capture and retain students' interests in the subject matter (David, 2008). The inclusion of real world problems is designed to help create serious thinking skills and for the students to try and apply new knowledge in a more problem solving contest rather than memorization and a little application.

Autonomy

Autonomy, or providing student's choice in their work, is another huge benefit of PBL. An example of students having choice in their PBL experience was a "project that includes an

individually written paper, a product of the students choice created by teams, and an oral

presentation of their work accompanied by media technology" (Larmer & Mergendoller, 2012).

Giving students the choice to create projects such as journalism media kits, web pages, public

service announcement videos, letters to the government, or informational brochures is what

makes PBL so effective. The choice of project gives a voice to the students and a more personal

meaning that let's students work towards a style that is suited to their own personal strengths,

(Larmer & Mergendoller, 2012).

Collaboration

One of the essential skills that PBL fosters, which helps students both within and outside

of a school environment - is collaboration. Collaboration isn't a component that is absolutely

necessary in PBL, but projects do present the opportunity for collaboration that tests and essay

writing often doesn't. An educator can structure projects that ask students to cooperate with each

other to build a project together. This potential for collaboration makes PBL unique and more

authentic than assessment methods that are considered more traditional. In a work environment,

and in daily life, we are often required to work together to solve problems. Collaboration

requires a specific set of skills including listening, problem-solving, and interpersonal skills - all

skills that help one succeed in life. Parents, students, and educators alike recognize the value of

communication and collaboration. These two Cs are more than activities. They are life skills.

Articulating thoughts and ideas, and navigating through the nuances of a group dynamic are

challenges that most everyone will experience in their life or work at some point, (Ralston,

2016). In any classroom, especially one in which PBL is a focus, "make sure [students] know

what's expected of them, [teachers need to] create norms and roles where appropriate, monitor

progress constantly, celebrate even little successes, and give students ways to formally develop

cohesion," (Fester, 2016).

Motivation

Another important benefit of PBL is that, projects often give students motivation to

achieve something beyond a letter grade. Motivating students is a challenging part of education.

One way to help with PBL is to allow students to give input on their learning experiences;

whether it's a mid-progress formative assessment or part of a units end summative assessment.

Teachers have the ability to offer a voice and a choice and focus on a student-centered style of

learning (Miller, 2014). There is a myth that in all learning engagement, learning should be

"fun". Fun projects are great and all, but challenging and rigorous assignments can often times

motivate students more than something fun or easy. PBL can be fun, but it also doesn't demand

a ton of work; it demands challenging work. Projects that stray away from the original plan or

guidelines aren't unsuccessful or done wrong, they often times are able to inspire new, authentic

projects that can still teach the same important skills (Miller, 2014).

It is easy for educators to become frustrated when students don't appear to be putting in

as much effort as possible for their grades. There are so many underlying factors that contribute

to what looks like student apathy. Students may appear indifferent about their success in school,

when the truth is, they simply don't see the benefit in achieving good letter grades. Whether

because they are being raised in a household where education isn't a priority, they have outside

stressors that take precedence over their performance in school, or they don't see continuing

education beyond college as a viable opportunity for them, many students need greater

motivation beyond the achievement of a high letter grade. PBL allows for that. Students have the

opportunity to create something that they can be proud of. Something that can be catered to their

interests more specifically and something that is a reflection of the work they put into the project, regardless of whether they are confident essay-writers or test-takers. For example, students in late middle school/early high school in a homeroom or advisory period, could benefit from a project that requires them to start planning their futures. A teacher may assign them to do research into colleges they are interested in attending, choosing one, and coming up with a presentation on their chosen college to give to their class. The teacher could vary the structure of the project, i.e. requiring students to make a poster or giving them more freedom to present with a powerpoint, allowing them to present in teams, record their presentation and play it for the class, etc., etc. There are so many different opportunities for both the teacher and the student to be independent in the structuring of the project, but in any iteration, the students is allowed to focus on something that is of interest to them and to create a project that allows them more creative freedom and autonomy. It is not enough for educators to simply expect students to care as much about their letter grade as they do, part of an educators job is to show students why what they are learning is valuable. PBL allows students to work towards a tangible goal that feels more applicable to their life outside of school.

Hurdles

Though it is a very effective tool for the classroom, PBL isn't a perfect way to measure student success and learning. One hurdle in implementing PBL effectively is present in how it is taught, and the instructors' willingness to implement it. This isn't to say that teachers are unwilling to embrace new ideas or change their methods, but implementing PBL in a classroom requires a larger adjustment in teaching philosophy and practice than might initially be expected. Many teachers find they have anxiety or a little bit of a resistance attitude towards being more of a facilitator than an actual teacher. In his reflection on the teacher's role in PBL, (Anson Green)

reflects, "for the instructor, the challenges lie, not so much in carrying out the actual project, but being able to effectively assume the role of advisor and guide rather than a dispenser of information with all the answers," (Green, 2000). Similarly, Frank and Barilai (2004) reported that many educators struggle with the change from presenter of content to someone who acts more as a mentor. It only seems natural that teachers who for a long time were the center of attention in the classroom might begin feeling inadequate in their new role. Many might be hesitant to give up their traditional role. The teacher continues to play the role of the facilitator, working with students in a multitude of ways such as a flipped classroom setting to work directly with the students working to solve these real world problem examples (David, 2008). While teachers who embrace more opportunities for PBL in their classroom will often sacrifice some control, a movement towards PBL is a great way to foster a student-centered instruction style that encourages students to take responsibility for their own learning and ultimately benefits them more in the long run.

Another weakness of PBL activities is that there can be some logistical issues in the day-to-day tasks of the project experience. Projects sometimes go off track and can stray away from the intended goal. The solution is to find ways for the projects to follow a certain set of learning goals that are appropriate to the content. Reflecting back on a consistent driving question, or questions, that the students can focus on directly each day will help keep focus, (Thomas, 2000).

Conclusion

PBL definitely works, but not for everyone. There is no such thing as a one-size fits all solution for education. Instead of a one size fits all method for answering problems, PBL offers various methods that are all "correct" to solve problems. These different methods or views are independent from one another, (Awang & Ramsy, 2008). With all the different personalities,

IEP's, and other factors, it's impossible to help everyone and have students reproduce the same results. While it's not a fail-proof method, courses that focus on PBL implementation in the classroom are effective tools for teachers to include in their wheelhouse. They are a great way to break away from other assessment methods, which similarly aren't successful for all students. Including problem based learning into a curriculum creates a ton of new opportunities for students to investigate meaningful questions that involve gathering information and using critical thinking skills (David, 2008). The projects that students work on in within a PBL curriculum, are realistic and dissimilar to traditional school projects. PBL assignments include characteristics that help deliver authenticy to students. These characteristics could include features such as choosing the topic, work tasks, student roles, work context, and the audience, (Thomas, 2000). PBL helps naturally promote creative & critical thinking skills, (Awang & Ramly, 2008). Though not specific to just these types of learners, PBL will greatly benefit the students who learn through more tactile and perhaps trial and error methods of learning.

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