Introduction

Project-based Learning (PBL) has been a persistent buzzword within educational circles for multiple years now. Whole school districts are still making moves towards adopting PBL as a district-wide instructional model, citing research that demonstrates increased grades, increased student buy-in, and increased student motivation. Especially in context of school-of-choice options, it is used and touted as a recruitment tool to obtain and retain students. Because funding is tied to these numbers, this practice is capable of being weaponized in the form of adherence to the model regardless of its impact on individual students and classrooms.

The other way schools are retaining students in high-need districts is by low enforcement of truancy policies. Students who struggle to fit the mold of presenting as classroom appropriate are more likely than others to receive and escalate to administrative discipline. These students frequently cope by skipping specific classes or completely skipping school. Schools that fail to enforce truancy policy allow these students to slip between the cracks and parents simply perceive that they get fewer discipline contacts. It also acts as a catch for families whose students work during school hours or are needed at home to care for younger siblings.

In a combined context of these two, significant challenges can arise that need clear addressing. This research project attempts to elaborate on these challenges and explore options for addressing these challenges in a student-centered way.

Research Context

Absenteeism in the Context of PBL

Eastern High School is a high-needs IB school located in Lansing, MI. We are part of a large district with centralized district administration, including three high schools. The nature of the community in the context of a large district results in a highly transient student population, where students may make multiple transfers between schools in a single school year, yet school funding is largely based on enrollment numbers. Truancy is also not regularly followed up on, as described previously. As such, each school in the district takes on its own recruitment language in order to attract students and increase enrollment/student retention. The aspect that *each* school has in common is that each school claims to have implemented/be implementing a project-based learning model of instruction, but with a dearth of support for teachers who are attempting to faithfully follow this model.

Because many students change housing situations regularly (or are persistently transiently-housed) or maintain habits of truancy, it is not an uncommon phenomenon to find a student in class with low motivation because of future uncertainty or because of lack of feeling of belonging in school. In addition, many parents in the district are employed in shift-work models, meaning students are frequently left in the evening to put themselves to bed or in the morning to get themselves to school. The result of this is an even more dramatic increase in student truancy/absenteeism.

The project-based learning model appeals for many reasons. It increases hands-on learning and content application, has been shown to decrease student failure rate (partly for

controversial reasons we will discuss later), and increases student engagement based on visual standards of engagement. However, it is a sustained, student-led learning spiral that requires students to be present with their groups in order to move forward with their learning. An issue I've noticed in my classroom is that students who miss large portions of a project-based learning unit immediately disengage when they are confronted with the huge amount of work they've missed, that is all hands-on, and that they will have less peer support in achieving because their peers are at a different point in their unit.

How are we equitably serving a transient/absentee student population while maintaining our standards of content mastery and student work-ethic development?

This topic can be divided into three question categories:

1) What are the different methods students can use to demonstrate mastery of the NGSS standards in a project based instruction model that are less daunting than a large unit-project?
    a) Do they need to complete the entire project?
    b) Are alternate assignments appropriate? Who is responsible for providing the alternate assignments?
2) How am I communicating these opportunities and choices to students so that they feel as if they still have the opportunity to succeed?
3) How can I alter the classroom organization to make room for students who miss class without putting an unfair burden on the students who show up every day?

As part of the school's five-year plan, all classrooms will be fully implementing PBL with IB unit plans within the next four years. This is a challenge that all classrooms at my school will soon face and need to address and impacts some of our most vulnerable population. Because consistency is a kindness our students thrive best in, development of a plan that is capable of being implemented school-wide is of high priority.

Literature Review

Causes of Absenteeism and the Trend to Edutainment

There are two dichotomous approaches to student truancy and absenteeism. One emphasizes that students with extensive absenteeism feel out of place when they attend a classroom setting because they have not been present to develop a sense of being part of the classroom community. The second emphasizes the approach that students arrive already feeling culturally out-of-place within the classroom because of a pre-existing sense of alienation from a system that was never designed to serve them, and point to absenteeism as a symptom of that, rather than the cause. Most recent research almost single-mindedly focuses on the latter, demonstrating a strong correlation between truancy and student family/background dynamics (Fernandez & Velez 1989). In addition, researchers have identified current organizational models that contribute to the estrangement of students with unique needs (Bryk & Thum 1989).

This research has resulted in numerous recommendations to school and district administration that focus on a behaviorism model of school culture-building that focuses on increasing the frequency of positive student rewards, commonly called PBIS, as a way to

increase positive student emotional responses to school attendance. This reward model, in which students are rewarded for responsible behavioral choices, is found in most schools within the Lansing School District. However, it has also been demonstrated that rewards for standard expected behavior (rather than something exceptional), actually lead to increased student truancy (Robinson et al. 2018). This likely stems from the framing of standard behavioral expectations as something exceptional or "worth rewarding", rather than something the students should be doing every day because it is the norm. It "de-norms" standard behavior by portraying it as something exceptional.

Other models designed to address high student truancy involve the emotional manipulation of students in order to increase emotional or motivational incentive for attendance. This encouraged a stronger push for teachers to purposefully build strong relationships and rapport with high-truancy students or to build in a higher frequency of high-entertainment (engaging) lessons in order to convince students to attend class. The emotional manipulation model of addressing high absenteeism is based on the assumption that when students miss class, they are doing so out of their own conscious choice, and that they are capable of changing their minds and being in class. It fails to address familial/cultural reasons for absenteeism where a student may have little choice (caring for a sick family member, caring for younger siblings, living in transiency without a regular bus stop, a third shift job, etc), as well as students with emotional response or attachment issues, for whom staying in a large public classroom environment is the challenge, rather than engaging with the content. When prompted for an explanation, students will most frequently provide these unavoidable family or health issues, rather than that they chose to be absent (deJung and Duckworth 1986).

The "edutainment" model of addressing high absenteeism is an obsessive dictation that learning should be "fun". It is heavily based on visual demonstrations, technological interaction, game formats and eschews instructional models of learning (Buckingham and Scanlon 2000). An analysis of instructional models claims that the focus on edutainment, and the increased use of technology in school instructional models in general, will lead to an imbalanced focus on application over understanding: that "'how to' will replace 'why'" (Apple, 1991).

Currently, the discourse around student graduation rate centers around "how do we get them to graduate", rather than "how do we make sure they have content mastery". This has led to a search for instructional models that lead to the highest student pass rate, rather than an analysis of how students perform content skills when given new problems to solve. One of these models,Project-Based Learning, has been picked up by Lansing School District as the instructional goal designed to increase graduation rates by increasing engagement. It is a collaboration-focused instructional model in which students design a public product (Thomas 1999) and through the design identify their current content fluency and content uptake path through student-developed "Know/Need-to-know" flow models (Blumenfeld 1991), with the goal that through the project students will develop mastery of adult skill sets (Diehl 1999).

PBL is a form of applied edutainment, focused on application skills and doing things students want to do, rather than prioritizing an understanding of the engineering principles by which the application works (Mills 2003). In addition, this instructional model almost exclusively requires that students be present in order to engage in any way with the content. Traditional instruction models were able to be delivered through multiple sources (print-outs and

worksheets sent home, after school catch-up, assignments and presentations/notes made available through class websites, etc). It is not possible, nor organizationally reasonable, to send project materials home, particularly in a content area focused on engineering and design (physics).

Because it has been previously established that increasing the edutainment quality of a classroom is unlikely to result in the level of absence-decrease hawked by district admin and PBL advocates, the implementation of PBL must be accompanied by a well-rounded plan for how absences in a PBL model will be addressed in a way that is equitable to all involved (absent student, classmates, teachers).

Intervention Method, Data Collection, Analysis

For this project, I have chosen to focus on one specific intervention: scaffolding a bifurcated pathway to demonstrating content mastery. Students with a high absence rate will have the option of meeting PBL milestones through independent work or to opt into an alternate pathway where the completion of more traditional assignments leads to the opportunity to demonstrate mastery on a unit test.

I will obtain a baseline measure of student attendance rate during semester 1 of the 2019/2020 school year. Alternate pathways to demonstrating mastery will not be offered during semester 1, mostly due to lack of notice/time for development of multiple curricula. Rate of student work completion (percentage of assignments turned in, total assignment grade) for high-absence (missing more than 20% of instructional time) and low absence (missing less than 5% of instructional time) students will be recorded as a baseline measure of class "investment". Overall course grade and failure rate for each group will also be recorded as a measure of student achievement.

During semester 2, the same group of high-absence students (and any other student that rises above the 20% missed instructional time cap) will be offered an alternative pathway to demonstrate competency, by being provided with both roadmaps (see attachments) to unit completion. The first roadmap contains descriptions and requirements for meeting PBL milestones, the second contains assignment specifications in order to take the unit test. Percentage of completed assignments and total assignment grade will be recorded again during semester two for each student group. Overall course grades and failure rate will be compared between semesters. Assignment completion and scores will be entered into synergy and the information extracted from Panorama for group and semester comparison. This data will be used to answer whether high truancy students who engage in an alternate learning pathway consistently engage in the classroom learning at a higher rate than students for whom the PBL model of instruction is the only one available.

Because all students deserve access to the same quality of education, at no point will high absence students be required to remove themselves from the PBL learning model. Because our school already collects blanket research and data analysis waivers for iCollaborate and Panorama observations, this set of students have already consented to research that does not forcibly sort them into instructional intervention groups or remove them from the classroom space without the direction of an IEP.

This action research is designed to inform my own practice as a determinant for how worthwhile it is to develop an alternate curriculum for students who struggle to attend class. It may impact the decisions of other teachers in the school as we struggle to address students we have not seen in many weeks suddenly appearing in our classrooms, but a recommendation for my colleagues to all make multiple curricula for each of their units is not something I'm willing to push for, as a philosophical and practical matter.

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