How engagement impacts K-12 learners in Social Studies classrooms: Analyzing the impact of Inquiry-Based Learning technological tools on student engagement

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Social Studies classrooms are often widely considered the 'boring', or unengaging learning environments. A large part of this perspective on a core content is in the delivery of instruction and its reliance on direct instruction, weekly readings, and large assessments (often relying on recall and memorization) (Hammond & Manfre, 2009). However, Social Studies learning environments lend themselves to student inquiry, discovery, and argument formulation, a constructivist form of learning. In addition to the concerns regarding engagement, Social Studies had been late to the incorporation of technology and largely reliant on recall/memorization technological resources (Hammond & Manfre, 2009). This hesitancy to embrace tools designed to support student engagement and learning, in a subject area that often faces these challenges specifically, has hindered the potential of many Social Studies classrooms. This paper will look at the challenges these classrooms face in reference to student engagement, the role of technology in supporting Social Studies classrooms, and how inquiry-based learning experiences can be enhanced and improve engagement in these learning environments.

Often associated with the subject area of science, Inquiry-Based Learning (IBL) is also a component of social studies classrooms and curriculums. Inquiry-based learning models real world examples of learning, "learning that enables critical thinking, flexible problem solving, and the transfer of skills and use of knowledge in new situations" (Barron & Darling-Hammond, 2008). This practice is associated with the transferable skills needed for students beyond the scope of social studies, yet remain appropriate in a learning environment that asks students to consider perspectives, formulate arguments, and present findings in a research paper, presentation, or class discussion. Often likened to Project-Based Learning (PBL), inquiry-based instruction With the addition of technology, students have the capacity to now "engage

collaboratively in idea improvement, problem solving, elaborated forms of communication, consulting authoritative sources and knowledge advancement as they undertake real problems, issues and questions" (WNCP, 2011). Students are no longer limited to the confines of their own classrooms and provide real world skills to real world problems and experiences. With this in mind, it is no surprise students often find these learning environments to be more engaging and rewarding learning experiences.

At the core of this instructional style is the ability for students to be engaged as compared to traditional methods. Brophy (1983) identifies this very phenomena stating, "Engagement in the task varies with the value that students place on the academic task." Students are engaged more through inquiry-based learning as a result of their perceived value of the learning experience and its relation to them. It is this very aspect of Inquiry-Based learning that appeals to students as compared to traditional methods of social studies instruction. Engagement can also be fostered through the inclusion of instruction. According to a review of the literature from Lindquist and Long, "technologies we reviewed had a positive influence on multiple indicators of student engagement, which may lead to a larger return on investment in terms of learning outcomes" (Lindquist & Long, 2011). The inclusion of technology can often be an engaging component for students which can lead to improved academic performance. The following studies highlighted the effects of technology-enhanced project based learning within Social Studies classrooms and the impact it has on student engagement.

A study conducted by Noelle J. Nelson evaluated the impact on student engagement through Project-Based Learning in a secondary social studies classroom. The purpose of the study was to analyze student engagement prior to and following classroom projects. Nelson used a variety of instruments to measure engagement in these projects including surveys administered

at the beginning, middle and end of the research in addition to observation tools used to record daily in-class observations. These observations were based on student's speaking, participation, and other behaviors including side conversations, doing work for other classes, and listening to their classrooms (Nelson, 2016). This study measured engagement through an observable, tangible lens based on the observation of the teacher. The study also relied on students' own reflection and interpretation of their engagement throughout the project. Through the collection of data and observations, Nelson found Project-Based Learning to be beneficial in improving student engagement citing, "When I allowed students to truly engage in their learning, as seen with the WWII unit, and to take control of their learning, I discovered that they could develop a passion for their topics" (Nelson, 2016).

Understanding the level of engagement that can be achieved in an otherwise 'unengaging' content area, can allow educators to figure out how to motivate students, effectively. This study highlights the impact that project-based learning can have on students' engagement by developing strong interest in topics that had limited interest prior. It can even be shocking how invested students become in a topic they may have previously not considered as a result of an authentic learning experience. Within this study students were tasked with creating an infographic based on conducting research on World War II. Made possible through technology, students became invested in creating a project which represented their research findings. These findings from Nelson (2016) show a strong link between engagement and project-based learning, specifically in a Social Studies setting. Further, Nelson's findings highlight the capabilities of technology in project-based learning. Technology can open up avenues and opportunities for project-based learning otherwise not possible without it. Educators

can look at Nelson's study as an example where technology can enhance the student experience for engagement and open up new possibilities for students to explore, create, and research.

Kimberly Wheatley conducted a similar study to that of Nelson (2016) assessing the effects on student engagement created by Inquiry-Based Learning experiences. However, Wheatley focused her inquiry-based learning in a Science class, in contrast to the Social Studies classroom setting of the previous study. The study used an engagement scale as the primary instrument for measuring engagement and identified behaviors related to engagement or lack thereof. Similar to Nelson (2016), Wheatley identifies engagement through behaviors including following directions, on-task behavior, participation in group discussions, etc. Further, off-task behavior was also considered in the evaluation of students' engagement including disrupting other students and not following directions (Wheatley, 2018). The observation measures of this study did illustrate a peculiar visualization of engagement as it considered behaviors such as 'positive attitude' and 'shown thinking'. This aspect of the observation differed from Nelson's study which focused primarily on tangible evidence and displayed behaviors. A key result from this study was in the comparison of direct instruction vs. inquiry-based instruction which is not only an improvement in student understanding of the content but students themselves own assessment of their interest and engagement improving in inquiry-based instruction. As a result, the author concludes that the study supported prior literature which also supports inquiry-based learning as an improved engagement practice (Wheatley, 2018; Aktamiş, Hįğde, & Özden, 2016).

This study supports the findings of Nelson (2016) in addition to the findings of literature regarding Inquiry-Based learning. This study specifically focused on hands-on experiments within a 4th grade Science classroom. It does not primarily address the application of technology

in inquiry-based instruction which may have an additional benefit for students in regards to engagement. However, this study is relevant within the conversation of inquiry-based learning and engagement. Wheatley's study was conducted in a 4th grade classroom compared to Nelson's study which was conducted in an 11th. This disparity in age and maturity did not have an impact in the findings as both saw an increase in engagement through project based/inquiry based learning. The study also highlights a comparison to direct-instruction, which saw students exhibit positivity and reflect positively on their learning experience when using PBL. These aspects of this study illustrate the impact of inquiry-based instruction on students' perceived learning experiences and how they transcend level, with student engagement being the primary beneficiary.

While Wheatley (2018) did not address the technological capabilities of supporting student engagement in IBL, De La Paz and Hernandez-Ramos (2013) focused on technology-enhanced inquiry based learning experiences. Their study was completed in a middle school classroom studying American history, including six students with learning disabilities. The authors chose to measure engagement within this study through student interviews in addition to analysis of the students' multimedia project. While the study does not directly focus on engagement, it does analyze the academic achievement and mastery of content standards, a considered outcome of IBL experiences (source). The results of this study concluded that students, both with and without disabilities, showed improvements in students academic performance in the unit, and similar results participation and results from more than half of students. Further, the authors concluded students displayed improved historical thinking and use of primary/secondary sources within student writing (De La Paz & Hernandez-Ramos, 2013). The benefits of technology-enhanced IBL can be seen through students' responses within their

interviews and their multimedia project showing a mastery of the content among both special education and general education students.

The study notably does not directly discuss the impacts of engagement in technology-enhanced IBL. That said, a connection can be made from increased engagement to improved academic achievement (Alvarez & Frey, 2012). With that in mind, this study specifies the impact and improvement of historical thinking and contextualization, by students with learning disabilities specifically. For these students to engage and display improved academic achievement shows technology can play a role in accessibility and academic benefits for not only general education students, but also for special education students. Directly tying this study to the conversation of inquiry-based learning and technology, there are added capabilities and benefits of PBL, made possible through technology. This study can be applied by identifying technological tools that can support students' needs with IBL experiences. Further, De La Paz and Hernandez-Ramos verify the impact these experiences can have on social studies classrooms at a secondary level. This study supports the benefits that IBL can have in Social Studies classrooms and provides further evidence of engagement and academic achievement as a difference-maker in social studies classrooms, for diverse learners.

Summary and Implications for Online Learning

The studies from Nelson (2016), Wheatley (2018), and De La Paz and Hernandez-Ramos (2013) highlight the benefits of inquiry-based learning in the classroom. Inquiry-based learning brought about an improvement in engagement among students in the form of in-class participation and student-like behavior (Nelson, 2016; Wheatley, 2018). The studies also exemplified the relevance of PBL in Social Studies classrooms through improved engagement with the content, student perception of learning, and academic achievement in historical

thinking. (Nelson, 2016; De La Paz & Hernández-Ramos, 2013). This specifically impacts the content area as a 'game-changer' for instruction. This form of instruction can create engagement in Social Studies where any student's perceptions of Social Studies are often not engaging, negative, and uninteresting (Harper, 1937). These findings are further enhanced by the inclusion of technology as a key component within the project-based instruction. Technology-infused PBL enhances student learning outcomes and, as a byproduct, the engagement of the students within the learning experience, especially students with learning disabilities (Nelson, 2016; De La Paz & Hernandez-Ramos, 2013).

When considering the impacts of these findings in blended and online learning environments, inquiry-based learning addresses the major concern of engagement. By framing the online environment as a student-focused, constructivist learning experience, students are able to explore and navigate topics of interest, improving engagement. The added benefit of the online platform makes the integration of technology into IBL seamless. Educators of online and blended learning, specifically in the social studies subject area, could benefit from a transition to this form of instruction with the goal of added engagement for students.

Future Research

While these studies provide supporting evidence for technology-infused Inquiry Based Learning instruction, more research is needed to support educators using this form of instruction. Specific forms of engagement need to be studied to determine the impacts of inquiry-based learning on types of engagement including behavioral, cognitive and affective (Fredericks, Blumenfeld, & Paris, 2004). This research would indicate specific impacts on engagement and allow teachers to make informed decisions on whether IBL is appropriate for their classrooms. Further research is needed to identify specific strategies for using technology within

Inquiry-Based learning. This research would inform best practices for infusing technology in project based learning and allow teachers opportunities to identify where technology may be able to enhance instruction and engagement for a diverse group of students. Additionally, specifically in online and blended learning environments, research is needed to see if any additional impacts of engagement are made through IBL. Currently the literature remains limited in this scope of the research.

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