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Running Head: LITERACY BASED PROJECT BASED LEARNING AND ITS EFFECT
ON HISPANIC STUDENT READING LEVELS AT ONE ELEMENTARY SCHOOL

Literacy Based Project Based Learning and its Effect on Hispanic Student Reading
Levels at One Elementary School

A Research Thesis by
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Abstract

The purpose of this study was to determine if there are academic benefits, specifically on reading levels, for Hispanic students from literacy based Project Based Learning (PBL) units. Project Based Learning is a student-centered instructional practice that includes elements such as; a driving question, student voice and choice, opportunities to develop 21st Century skills, inquiry, innovation, a public product and standards-based content. The research used in this study supports that, through Project Based Learning, students are engaged, are able to develop 21st Century skills, and are able to access cross-curricular content through exposure to content rich literacy experiences, which can in turn lead to academic growth. 66 Hispanic students, 36 “Other Ethnicity” students, and two teachers were the participants in this study. A mixed methods approach was used in this study. The study monitored the effect of literacy based PBL units on the STAR Reading Grade Equivalent (GE) levels, of the 5th grade Hispanic student population, at one TK-5 elementary school in North San Diego County. After the culmination of each PBL unit, the grade equivalent level data was collected. Likewise, two teachers completed a qualitative survey to answer questions about the effect PBL had on their students, in particular on the Hispanic students. The data collected in this study shows that the Hispanic students made reading level growth after completing two literacy based PBL units. The study supports that further research on Project Based Learning is necessary to determine the effect it has on academic growth, not only in reading but also in other academic areas.

Keywords: Grade Equivalent, Hispanic, Literacy, Personalized Learning School, Project Based Learning, STAR Reading Summary Report, 21st Century Skills

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Chapter 1

The implementation of the Common Core State Standards (CCSS) has changed the way that teachers approach instruction. The “traditional teaching” method of the teacher standing in front of the classroom lecturing, does not meet the demand that these standards bring in preparing our students for the 21st century. The CCSS are rigorous and demand that the teacher and the students use critical thinking skills to justify their thinking, as opposed to the traditional assessment method of selecting from multiple choice answers on exams. Expectations that colleges and careers have in the 21st century are “more demanding more than ever before” (Common Core Standards, 2017). The Common Core Standards (2017) were established to:

To ensure all students are ready for success after high school, the Common Core State Standards establish clear, consistent guidelines for what every student should know and be able to do in math and English language arts from kindergarten through 12th grade. Teachers need to implement instructional practices that will set high expectations for all students, support and teach the ELA/Math Common Core Standards, and prepare students for the demands of the 21st century.

While there are many instructional practices that have surfaced since the adoption of the CCSS, more districts are “considering PBL strategies to increase rigor and relevance, as they transition to the demands of increased core standards, in order to assess students based on what they produce or demonstrate rather than recall for a test” (Cervantes, Hemmer, and Kouzekanani, 2015, p. 62).

Project Based Learning(PBL) has been around for quite some time, but we are seeing more teachers using this instructional practice in their classrooms, because of the benefits it brings. Project Based Learning dates back to John Dewey, but “it has gotten a second wind in the past decade as a strategy to engage diverse learners in rigorous learning” (Cervantes, Hemmer, and Kouzekanani, 2015, p. 62). As Intel (2007) explains, “Project-based learning has gained a greater foothold in the classroom as researchers have documented what teachers have long understood: Students become more engaged in learning when they have a chance to dig into complex, challenging, and sometimes even messy problems that closely resemble real life”. Project Based Learning allows all students to engage in their learning and the curriculum, through real world application and a project based lens. Project Based learning is a “dynamic approach to teaching in which students explore real-world problems and challenges, simultaneously developing cross-curriculum skills while working in small collaborative groups” (Edutopia, 2008). Besides allowing them to develop their skills and access curriculum through a student-centered approach, it also enables them to work collaboratively with other students, think critically, develop innovative ideas, problem solve and develop and practice their communication skills.

Research also shows that Project Based Learning meets the needs of our diverse population of students. The Hispanic population in Southern California is on the rise, and they account for a significant portion of our overall population. In California alone, Hispanic students make up over 50% of our student population (CDE, 2016). Teaching is no longer a one size fits all model, so teachers need to ensure that they implement instructional practices, such as Project Based Learning, that meet the needs

of all of our students. As Padron, Rivera and Waxman (2002) point out, “Every school should be considered unique, and educators should choose among research-based practices and programs according to the needs of the Hispanic students that they serve” (p.18).

Purpose of Study

The purpose of this study is to explore the effect that literacy based PBL units have on our Hispanic student population. While school “redesign has emerged as a means to focus on the core function of teaching and learning” (Cervantes, Hemmer, and Kouzekanani, 2015, p. 51), the Hispanic student population continues to perform below average in literacy. A possible reason is that instructional practices are not being implemented that meet their diverse needs. Elmore and City (as cited by Cervantes, Hemmer, and Kouzekanani, 2015, p. 51) explain that “conventional school reform approaches remain because “teachers and schools continue to control access to content and learning”. Our Hispanic student population does not benefit from a “traditional instructional approach”. In order for Hispanic students to succeed academically, especially in literacy, they need to be engaged, have choice, participate in cooperative learning, and be exposed to cross-curricular experiences and literary access. As Berka and colleagues (2012) explain, while there many ways to integrate content area literacy instruction into our teaching practices, scholars believe that project-based approaches are especially powerful. Project Based Learning gives teachers the opportunity to incorporate cross-curricular standards, such as literacy and science, while also giving students the opportunity to grow academically and develop their 21st century skills. Studies show that this type of instruction is valuable for

Hispanic students because they have choice, access to curriculum and texts that are meaningful and they are able to develop their 21st century skills, as well as their literacy skills. Because of the elements that are embedded in PBLs and its benefits, this study aims to examine the effect that literacy based PBLs have on the reading levels of the Hispanic student population. Therefore, this study focuses on the following questions:

- Do literacy based Project Based Learning(PBL) units lead to reading level academic growth for Hispanic students?
- What are the benefits of PBLs for the Hispanic student population?
- What components of PBL support the needs of the Hispanic student population?

Preview Literature

The literature on the topic of Project Based Learning showed several overarching themes that support the benefits of PBL for Hispanic students. Project Based Learning has several design components/elements. PBLs should include the CCSS, in particular the ELA (literacy) standards, a need to know, a driving research question, the opportunity for student choice, opportunities to practice and develop 21st Century skills, inquiry and innovation, feedback, and a public project (BIE, 2017; Hallerman, 2013; Larmer and Mergendoller, 2010). Within the elements of PBL is the need and opportunity for students to develop their 21st century skills. The 21st century skills that students are exposed to through PBL are problem solving, inquiry, creativity, research, technology, communication and collaboration (Bell ,2010; Hertzog, 2007; Intel, 2007).

Second, the components/elements of PBL are beneficial to all students because they lead to student engagement and academic achievement. Studies show that when students learn through Project based learning over “traditional teaching”, they are more

likely to be motivated and engaged. In turn, students succeed academically because learning is meaningful and they are more able to retain knowledge and academic content, leading to academic growth (Baron and Hammond, 2007; Gultekin, 2005; Vega, 2015).

Third, PBL gives teachers the opportunity to incorporate cross-curricular standards. This gives students exposure to literacy experiences across multiple subjects. Students access text through instruction, but also through research to support their project. Reading becomes purposeful and relevant when learning through PBL because they are reading for interest in their project. They are also able to communicate about what they learn through their reading. (Duke, Halvorsen, & Strachan, 2016; Hallerman, 2012).

Fourth, while changes in education are happening and new instructional practices are slowly being implemented, our Hispanic student population continues to struggle in the area of literacy. Many of these students are still below grade level in reading because instructional practices are not being put into action that support their needs. Research suggests that Hispanic students learn best and grow academically when they are engaged, have opportunities to develop their 21st century skills and are able to strengthen their literacy skills through cooperative learning (Barron and Hammond, 2007; Bell, 2010; Hallerman, 2012; Padron, Rivera & Waxman, 2002, Weiner, Leighton, & Funkhouser, 2000).

Lastly, while there are benefits to Project Based Learning, many teachers are hesitant to implement PBL in their classrooms because of the challenges and needs that arise when implementing PBL. Some of these challenges are a misunderstanding

of what PBL is and what is expected, time constraints, and lack of PBL knowledge and professional development (Baron and Hammond, 2007; David, 2008; Dopplet, 2003; Intel, 2007). While these challenges exist, the benefits PBL brings to the classroom and students are worth exploring.

Preview Methodology

The methodology that will be used in this research study will be mixed methods. Data collected will be both qualitative and quantitative. Qualitative data will be collected through a survey given to the participating teachers. The survey will support the study, as it will collect information regarding what components the teachers felt met the needs of the Hispanic students, and whether they felt the units had an impact on student achievement, specifically on their reading levels.

The quantitative data collected will be reports on the STAR reading levels of the Hispanic student population and a separate report for all other ethnicities. Data will be collected three separate times. This data will support the study by determining whether the study group had gains in reading, as compared to all other ethnicities. Data will be analyzed to determine the effect the literacy PBL units had on the Hispanic students.

Significance of Study

Padron, Rivera, and Waxman (2002) found that:

The education of Hispanic students in the United States has reached a crisis stage. Although the number of Hispanic students attending public schools has increased dramatically in recent decades, Hispanic students as a group have the lowest level of education and the highest dropout rate of any group of students (p.7).

This is alarming because the 2013 U.S Census Bureau (as cited by Quirk, Grimm, Furlong, Nylund-Gibson & Swami, 2016) shows that:

Latino children are the fastest growing subpopulation of students in the United States public school system, representing approximately one quarter of all elementary-aged students (U.S. Census Bureau, 2013) and more than one half (52%) of the school-aged students in the most populous state, California (p. 814).

With the rigor and high bar the CCSS have set, it is even more crucial than ever that we support our Hispanic students with instructional practices that will not only help us close the achievement gap, but that will also prepare them for their future in the 21st Century. “Simply put, public education in the United States cannot succeed unless Latino students are fully engaged and reaching their highest potentials” (Quirk, Grimm, Furlong, Nylund-Gibson & Swami, 2016, p.814).

In a PBL implementation study conducted by a school district in South Texas, they determined that “a student’s participation in the PBL and achievement in reading and mathematics shows that the PBL does make a difference” (Cervantes, Hemmer, and Kouzekanani, 2015, p. 63). Students need more than basic skills to succeed in the 21st century, especially with the demands many careers possess, this includes our minority student population. Cervantes, Hemmer, and Kouzekanani (2015) point to the need for teachers to help students graduate with “21st century skills such as collaboration, creativity, teamwork, problem-solving and decision-making in order for our students to learn, practice, adapt, thrive and succeed in a future we don’t know” (p. 64).

Project Based Learning offers educators the opportunity to prepare students, both academically and with the 21st Century skills that are essential for their future.

Buck Institute for Education (2013) explains that a goal of the Common Core standards is to better prepare students with college and career readiness. This includes the 21st Century skills. BIE (2013) states that “PBL with its emphasis on both significant content and 21st century competencies, addresses these new standards in several important ways. While, for Hispanic or Latino students, the graduation rate reached 78.5 percent in 2015 (CDE, 2016), that still leaves 20% of our student population that isn't graduating from high school. Orthernr, Cook, Rose and Randolph (as cited by Cervantes, Hemmer, and Kouzekanani, 2015) reported that “many students do not have access to these innovative efforts because they disengage from their education well before high school” (p.52). The lack of student engagement and instructional practices, such as Project Based Learning, that support the Hispanic population can explain this statistic.

These students are not meeting the expectations the standards place. Literacy, specifically reading, is a content area where Hispanic students are still below the standard. This has a negative impact on their academics. “Despite the rapid gains in math and reading of students from homes where Spanish is the predominant language, these students still score well below those of White students and Hispanic students from English-speaking homes by fifth grade” (Reardon, 2009, p.874). It is more important than ever to ensure that we are meeting the needs of this population of students. While strategies and instructional practices have been researched and suggested in the past, new practices such as Project Based learning need to be studied to determine whether

they have a positive effect on the academic levels of Hispanic students. This study is significant because it will focus on the effect literacy based PBL units have on the reading levels of 5th grade Hispanic students, at one elementary school.

Conclusion

The literature, articles, research studies and other sources reviewed for this study presented information that supported Project Based Learning and the benefits it brings in the classroom and for the students. Buck Institute for Education (2013) summarizes these benefits that include:

- access to standards-based content and skills to include the 21st Century skills
- ability to solve a problem or question
- engagement of students in inquiry
- real world application and opportunities for students to explore personal concerns, interests, and issues
- student choice and decision making

Other benefits include student engagement and increased motivation for students.

However, there isn't significant data or sources that determine the effect Project Based Learning has on academic levels of minorities, in particular, Hispanic students.

Furthermore, the available sources on Project Based Learning, do not provide research on the effect PBL has on literacy achievement, with a focus on reading levels. This research study aims to answer the questions:

- Do literacy based Project Based Learning(PBL) units lead to reading level academic growth for Hispanic students?
- What are the benefits of PBLs for the Hispanic student population?

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- What components of PBL support the needs of the Hispanic student population?

The hope is that in the future, more research will be available for educators that supports the need for Project Based Learning in the classroom.

Definition of Terms

Project Based Learning: a teaching method in which students gain knowledge and skills by working for an extended period of time to investigate and respond to an authentic, engaging and complex question, problem, or challenge. (BIE, 2017)

Literacy: the ability to read and write. The **modern** term's meaning has been expanded to include the ability to use language, numbers, images, computers, and other basic means to understand, communicate, gain useful knowledge and use the dominant symbol systems of a culture. (2016, June 14). Retrieved from <https://en.wikipedia.org/wiki/Literacy>

Hispanic students: The ethnic group of a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race. In 1998-99, the title of this ethnic group was modified from *Hispanic* to reflect the new federal standards and more current use. (2016, June 14). In California Department of Education Glossary of Terms. Retrieved from <http://www.cde.ca.gov/ds/sd/cb/glossary.asp#h>

STAR Reading Summary Report: Summarizes student STAR reading test results for a specific date range. (Renaissance Place, 2015, p.116) In STAR Reading Software Manual. Retrieved on July 10, 2017, from <https://resources.renlearnrp.com/us/manuals/sr/srrpsoftwaremanual.pdf>

Grade Equivalent: The Grade Equivalent (GE) is a norm-referenced score. It provides a comparison of a student's performance with that of other students around the nation. If a student receives a GE of 4.0, this means that the student scored as well on the STAR Reading test as did the typical student at the beginning of Grade 4 (Year 5).

(Renaissance Place, 2015, p.91. In STAR Reading Technical Manual. Retrieved on July 10, 2017, from <http://doc.renlearn.com/KMNet/R004384910GJF6AC.pdf>

Personalized Learning School: focused on creating a custom growth model learning pathway that is personalized for each student. There are five objectives designed to set the conditions for success: the personal learning path needs to be grounded in the student's profile, digital devices need to be infused into the learning environment; both in school and at home, all students and teachers collaborate to design personal learning paths (playlists) that align to grade level common core standards, learning environments need to be reimaged to become more inviting, and to deliver on the promise of personal learning, students need to have the flexibility to progress once they demonstrate competence. (2016, June). Retrieved on July 10, 2017, from <https://drive.google.com/file/d/0B117AdGVpS-TeFdrVGdUR2tjTzQ/view>

21st Century Skills: refers to a broad set of knowledge, skills, work habits and characters traits that are believed- by educators, school reformers, college professors, employers and others-to be critically important to success in today's world. In Ed Glossary. Retrieved on August 12, 2017, from edglossary.org/21st-century-skills/

Chapter 2: Literature Review

With changes in education and the implementation of the Common Core State Standards (CCSS), many teachers are being asked to increase academic rigor for students. To do so, teachers are using a variety of teaching methods in their classrooms, that move away from “traditional teaching”. One of these teaching methods is Project Based Learning (PBL). In his review of PBL, Thomas (as cited in Chu, Tse, & Chow, 2001, p. 133) “found support for the argument that this approach is more effective in enhancing student learning when compared to traditional instruction”. Teachers are moving towards instruction that is student centered, develops their 21st century skills, and allows them to learn through real world application.

Project Based Learning (PBL) is a teaching method where students are able to solve real-world problems through a project based lens. In the article, *What Research Says About Project Based Learning*, David (2008) stated that, “The core idea of project-based learning is that real-world problems capture students' interest and provoke serious thinking as the students acquire and apply new knowledge in a problem-solving context”. Students are able to build their own knowledge through inquiry and meaningful tasks.

PBL offers a variety of benefits. One benefit is that students are able to collaborate with other students, think critically, problem solve, be innovative and learn to work with others. PBL allows students to acquire 21st Century Learning skills because they are taking “part in complex, meaningful projects that require sustained engagement, collaboration, research, management of resources, and the development of an ambitious performance or product” (Barron and Hammond, 2007). Likewise,

learning becomes student centered, students have the opportunity to make choices and they are able to learn at their level. In his study, Thomas (as cited by Filippatou, & Kaldi, 2010, p. 18) stated that “several project-based learning practitioners have stated that PBL, because of its various features, is a more effective means of adapting to students various learning styles or multiple intelligences than is the traditional instructional model”. PBLs allow for differentiation across learning styles and academic levels.

Another benefit is that while many believe that PBL has a scientific focus, they can also be cross curricular to include, reading, writing, social studies and even math. Bell (2010) explains that “It is important to remember that even though a project may be based in one curricular area, it crosses over into all areas of traditional academic studies” (p. 42). Because PBLs can be cross-curricular, students are exposed to both fiction and informational text. Students are able to access rich sources of literature and engage in high-level reading. Bell (2010) further explains, “The outcome of PBL is greater understanding of a topic, deeper learning, higher-level reading, and increased motivation to learn” (p.39). PBL not only allows students to engage in their learning, but it also provides literary experiences that typically aren’t possible through a traditional teaching format. Students are able to seek resources to support their projects, which in turn makes reading meaningful to them. When students are able to read for meaning and purpose, they are motivated, which can lead to academic growth in reading, comprehension and writing.

PBL is crucial in this age of technology and innovation, where 21st century skills are needed to succeed. According to Baron and Hammond (2007), “reports have been

written about the need for more powerful teaching and learning focused on the demands of life and work in the twenty- first century”. Traditional methods of teaching will not prepare students for a competitive work force. Barron and Hammond(2007) further explain that, “Education today must focus on helping students learn how to learn, so they can manage the demands of changing information, technologies, jobs, and social conditions”.

While there are benefits and many teachers are implementing PBL, there are still many teachers who don't know what PBL is, what it entails and the effect it has on students and their learning. By using key words, examining bibliographies for sources others have cited and my own prior knowledge, I was able to select sources to support the question, Do literacy based Project Based Learning units lead to academic growth in reading for Hispanic students? In this Literature review, several themes emerged in relation to PBL. The goal of this literature review is to explore these themes. It will aim to:

1. Define Project Based Learning(PBL) and state the components;
2. Explain the benefits of incorporating this teaching method into the classroom;
3. Literacy and learning strategies for Hispanic students;
4. Literacy within PBLs and the challenges teachers may face when using PBL in their classrooms.

Components/Elements of PBL

Buck Institute for Education (2017) defines Project Based Learning as “a teaching method in which students gain knowledge and skills by working for an extended period of time to investigate and respond to an authentic, engaging and

complex question, problem, or challenge”. They explain that the projects are focused on student goals and have “essential project design elements” (BIE, 2017).

Project Based Learning has many elements. Larmer and Mergendoller (2010), explain that there are 7 essential components to PBL. These include: a need to know, a driving question, student voice and choice, 21st Century skills, inquiry and innovation, feedback and revision, and a public product. The teacher is now there as a facilitator and the students take over the responsibility for their learning. Students have the ability to work in groups and collaborate, think critically, and develop understanding and new skills, through an engaging learning experience.

However, the Buck Institute for Education (2017) recently added an eighth element. PBL should also include key knowledge, understanding and skills, that includes standards-based content. It is important that PBL incorporates the CCSS. Sara Hallerman (2013) explains that “Common Core demands that students have ongoing experiences to learn about the world through reading, and that they understand the relevance of what is taught”. With the implementation of the CCSS, teachers are now moving away “from teaching skills in isolation and toward the integration of reading, writing, speaking and listening, and language into long-term unit plans” (Hallerman, 2013). Project Based Learning allows teachers to not only teach these skills, but also to incorporate cross-curricular standards into units or projects. Likewise, by incorporating cross-curricular standards into PBL, they are also able to use a variety of literacy resources and experiences within a PBL. Integration of the CCSS into PBL, changes the way students learn, by providing them with authentic and in-depth experiences. Students will also begin to understand the “relationship between standards, as they

transfer concepts and skills in the classroom to the world outside the classroom walls” (Hallerman, 2013).

Developing 21st Century Learning Skills

As Larmer and Mergendoller (2010) explained, PBL should include usage of the 21st century skills. These are skills that extend outside the school walls. Along with understanding the standards, students should be able to transfer the 21st Century skills from their learning experiences to the real-world. Bell (2010) states that, “PBL promotes social learning as children practice and become proficient with the twenty-first-century skills of communication, negotiation, and collaboration” (p.40). Through PBL, students are not only gaining academic knowledge, but they are also developing 21st Century Learning Skills.

Project Based Learning allows students to practice and develop the 21st Century Learning skills that are necessary for the future. Through PBL, students are able to develop 21st Century skills that will “aid them in becoming productive members of a global society” (Bell, 2010, p.43). The need for students to have skills such as collaboration, critical thinking, communication, creativity, and technology is crucial in this age of technology. More careers require candidates to hold these essential skills. Baron and Hammond (2007) explain that jobs in 2008 required specialized knowledge and skills. Employees should be able to communicate, collaborate, conduct research, collect, synthesize and and analyze information (Baron and Hammond, 2007). One of the benefits of Project Based Learning is that it gives students the opportunity to become familiar with these necessary skills.

PBL allows students to not only learn, but they are also challenged, engaged and

focused on a real-world problem. They are able to work on meaningful projects that allow them to think critically, collaborate and acquire new skills. Likewise, they are able to problem solve, practice inquiry and take on an active role in their learning. Students are also able to clarify their understanding and answer questions. As Hertzog (2007) states, "Learning is authentic in the project approach because students are encouraged to work in small groups and seek answers to the group's questions" (p.538). As is evident, there are many benefits to PBL.

Students benefit from the experience and are able to take on roles that are meaningful. PBL transform the classroom because students have choice, there is no right or wrong answer to their problem, students are able to reflect and are assessed, and there is a final product. It also offers benefits for teachers.

Intel (2007) states that, according to the George Lucas Educational Foundation, there appears to be "a growing body of academic research" that "supports the use of project-based learning in school to engage students, cut absenteeism, boost cooperative learning skills and improve academic performance". Intel (2007) further states that PBLs offer other benefits for teachers and students. These benefits include:

- Consistent attendance and positive attitudes towards learning
- Academic growth
- Opportunities to think critically, problem solve, communicate and collaborate.
- Engages all learners

Benefits of Project Based Learning

Besides learning and applying the 21st Century Learning skills, there are other benefits to Project Based Learning. Studies support the fact that PBL leads to increase

in student achievement and student motivation/engagement. In 2004, Turkish primary schools wanted to integrate constructivist theory principles (Gultekin, 2005, p. 549). The approach they implemented was Project Based Learning. Once implemented the study showed that there was an improvement in student learning. "According to the findings, the project-based learning approach affected the academic success of students in the Social Sciences course in primary education" (Gultekin, 2005, p.552). Depending on what academic areas the PBL is focused around, students are also able to make growth in other academic areas because students are able to retain information they learn through PBL. According to Vanessa Vega (2015), studies have shown that students taught through project-based learning, as opposed to traditional instruction, "show that when implemented well, PBL increases long-term retention of content, helps students perform as well as or better than traditional learners in high-stakes tests, improves problem-solving and collaboration skills, and improves students' attitudes towards learning".

Students see learning differently when learning through PBL. They are more likely to engage in what they are learning because they have choice and a purpose. Gultekin (2005) states that his study showed that, "learning with project-based learning approach was enjoyable, which was also found by Girgin-Balki (2003) who stated that the "projects motivate students and let them have fun while learning something" (p.552). The students find what they are learning not only meaningful, but also interesting and enjoyable. Newman (as cited by Baron and Hammond, 2007), wrote that when students are able to participate in lessons that require them to "construct and organize knowledge, consider alternatives, engage in detailed research, inquiry, writing, and

analysis, and to communicate effectively to audiences”, it has a positive impact on them and their learning”.

Literacy Centered PBL

PBL has typically been centered around Science, Technology, Engineering and Math (STEM). However, literacy research shows the “power of project based learning” (Duke, Halvorsen, & Strachan, 2016, p.16). Designing PBLs that are centered around the literacy standards can be beneficial to students. Duke, Halvorsen, and Strachan (2016) also explain that when students are able to:

- Read and write beyond what is required for school
- Read and write material that is relevant to them
- Read and write texts related to their interests
- Select what they read
- Write for an audience and
- Collaborate (p.16)

their “literacy develops more quickly, and students have greater literacy motivation” (Duke, Halvorsen, & Strachan, 2016, p.16). Project Based Learning incorporates these elements and opportunities. Through PBL, students read and write for meaning and purpose, because it provides them with “authentic literacy experiences” (Hallerman, 2012). It gives students the opportunity to read a wide range of resources to do their research, ask questions and answer those questions. Students aren’t simply looking on

Google for information, they are able to build their own understanding through authentic resources and use those resources to write. Learning and reading becomes relevant to students. According to Hallerman (2012), “while reading and writing “just for school” certainly still has a purpose in our education system, authentic contexts are highly effective for improving student learning”. When students are able to read, write, and research for meaning and purpose, it can lead to academic growth in reading, comprehension and writing.

Literacy and Instructional Practices for Hispanic Students

According to recent studies, “The academic achievement of Latino students continues to be below average in the United States, particularly in the area of literacy” (Quirk, Grimm, Furlong, Nylund-Gibson & Swami, 2016, p.814). Prior to Common Core, classroom instruction was primarily teacher-centered. The students sat at their desks, while the teacher stood at the front of the classroom and delivered instruction. What was taught in the classroom and what the students learned was decided by the teacher. An “urgent problem related to the underachievement of Hispanic students has to do with current teaching practices. The most common instructional approach found in schools that serve Hispanic students is the direct instructional model” (Padron, Rivera & Waxman, 2002, p. 9). Worksheets, memorization, and whole class direct instruction was part of a student’s learning experience. However, this form of instruction does a disservice to students in particular minorities.

A teacher-centered instructional model does not include instructional practices that will lead to academic achievement among Hispanic students. Researchers from the Center for Research on Education, Diversity, and Excellence (CREDE) identified five

principles that help Hispanic students achieve high standards (Weiner, Leighton, & Funkhouser, 2000, p. 10). One of these principles is embedding reading and language development into curriculum. Development of language, vocabulary and reading skills are essential for all students, but in particular Hispanic students because literacy “underlies mastery of all other academic subjects” (Weiner, Leighton, & Funkhouser, 2000, p. 10). Literacy is cross-curricular, so it is important for teachers to expose students to rich literature and “development of language skills” (Padron, Rivera & Waxman, 2002, p. 11) in their teaching methods. Good teaching methods “stimulate growth in students’ reading and language skills in all instructional settings” (Weiner, Leighton, & Funkhouser, 2000, p. 11). Literacy based PBLs, allow students to develop these skills because they have access to fiction and informational text that is meaningful to their learning and project, rich vocabulary and access to language skill development through participation, communication and collaboration.

We are in the 21st century, where “today’s employees must be able to communicate and collaborate, research ideas, and collect, synthesize, and analyze information” (Baron and Hammond, 2007). Hispanic students benefit from opportunities to interact with other students. However, studies have shown that in traditional teaching students are often not provided with this opportunity. In a study conducted by Waxman, Huang and Padron (as cited by Padron, Rivera & Waxman, 2002), their results showed that in over half of the instructional time:

Students were not involved in verbal interaction with either their teacher or other students. There were very few small group activities.

Students rarely selected their own instructional activities and were generally very

passive in the classroom, often just watching or listening to the teacher, even though they were found to be on task about 94% of the time (p.10).

While students may be on task and listening during instruction, students benefit most from application of skills and the opportunity to communicate and collaborate with others. Studies have shown that students who have the opportunity to work collaboratively “outperform individuals on learning tasks and that individuals who work in groups do better on later individual assessments as well” (Baron and Hammond, 2007). Furthermore, they show that “racial and ethnic minority students benefited even more from cooperative group work than non-minority students” (Baron and Hammond, 2007).

Padron and Waxman (2002) suggest that there are five instructional practices that have been successful in teaching Hispanic students. One of these instructional practices is cooperative learning. Through cooperative learning the teachers acts as a facilitator in the learning process and encourages cooperation among students. This instructional practice is “student-centered and creates an interdependence among students and the teacher” (Padron, Rivera & Waxman, 2002, p.12). When students are given the opportunity to interact with other students it allows them to share ideas, practice language skills, and develop their communicate skills. Padron, Rivera & Waxman (2002) concluded that cooperative grouping influences Hispanic students by:

- giving students opportunities to communicate with each other,
- enhancing instructional conversations,
- developing their social, academic, and communication skills,

- giving the students self-confidence and self-esteem because they are able to contribute to their group

and

- developing their English proficiency by providing students with rich language experiences that integrate speaking, listening, reading, and writing (Padron, Rivera & Waxman, 2002, p.12).

These instructional practices are essential elements in project based learning. Project Based Learning is a beneficial teaching method when working with minorities. Hispanic students benefit greatly from PBLs because they offer “one of the best ways to provide students in your classroom with authentic literacy experiences” (Hallerman, 2012). The students are exposed to a wide range of texts and reading while completing a project. Students conduct research and are able to select text that supports their project. Thus, reading becomes purposeful for them. Project Based learning also allows students to “learn the fundamental skills of productive communication, respect for others, and teamwork while generating ideas together” (Bell, 2010, p.41). Hispanic students and all students benefit greatly from PBL because they are able to develop 21st century skills, such as collaboration and communication.

Teacher Challenges and Needs

It is important to understand that although there are many benefits that exist for PBL, “Without carefully designed tasks, skilled teachers, and school conditions that support projects, project-based learning can devolve into a string of activities with no

clear purpose or outcome” (David, 2008). Teachers face many challenges when contemplating whether to implement PBL and also when implementing PBL.

One of the challenges is understanding what PBL is and what is not. In order for Project Based Learning to be successful, teachers need to accept and believe in PBL and the opportunities it offers students. Many teachers struggle with the idea of PBL, because it moves away from what is considered “traditional teaching”, where teaching and learning was centered around the teacher presenting information to the students. PBL is student centered. Students are learning by doing and are accessing knowledge through the PBL experience. Students conduct research, collaborate, think critically and problem solve when learning through the PBL lens. As Dopplet (2003) stated, “The knowledge gained through active learning is constructive knowledge from active thinking and problem solving, and is not knowledge of memorizing and doing exercises for the teachers or doing homework from books” (p.236). Teachers must understand that although it is difficult to release the responsibility to the students, this active engagement has many benefits. Their role is to support student learning.

Another challenge teachers face is finding time to implement PBL. Embracing PBL is difficult for teachers, because PBLs require time not just for teachers to implement and complete units, but also for student to complete their projects. In today’s education system, testing, pacing guides and other demands placed on teachers, “discourage many teachers from venturing into the kinds of collaborative student investigations that form the foundation of project-based learning” (David, 2008). While PBL does require time for teachers and students, teachers must understand that when

designing PBLs, they should create them to be cross-curricular. With the creation of the CCSS, instruction no longer has to be teaching single subjects, but can include multiple-subjects. PBL offers teachers the opportunity to include multiple subjects in units and projects.

However, teachers struggle with this idea, when they do not have the skills, knowledge and collaboration time to design strong PBLs that incorporate multiple subject and application of 21st century learning skills. According to Baron and Hammond (2008), teachers need the training that will allow them to:

- design and support inquiry-based lessons
- balance direct instruction with inquiry opportunities
- scaffold the learning of individual students by modeling and providing feedback
- facilitate learning among multiple groups
- develop assessments that will guide the learning process

Since PBL has many elements, teacher training is crucial because PBL can go from being a meaningful learning experiences, to completing a simple project. According to David (2008), a problem teachers face without training is that “Although projects are the primary vehicle for instruction in project-based learning, there are no commonly shared criteria for what constitutes an acceptable project”. Depending on the question the PBL is asking, the learning goals, the structure and how the teacher guides the students, the projects will vary. Some teachers may use PBL as their curriculum, some might use it

once in a while to provide hands on activities, others might incorporate “multidisciplinary or single subject” standards, and the grouping might vary as well (David, 2008). This is also why collaboration time among teachers is needed. When teachers are able to work together, they have support to design PBLs and access to knowledge and skills because they are able to share best practices. “Without this additional time and support, extended projects can easily become more about “doing for the sake of doing”, than doing for understanding (Baron and Hammond, 2007). With teacher training and collaboration time, teachers will understand what PBL is, learn best practices, receive support and see that PBL is valuable in the classroom.

With the amount of benefits that PBLs have, leaders should look at Project Based Learning and determine if it is an academic focus that should be implemented at their school site. Leaders must be aware that teachers will need to be provided with professional development, collaboration time, and ongoing training to create effective PBLs, but it will ultimately lead to student achievement. Baron and Hammond (2007) state that, “While they point to studies of the effectiveness of these strategies, they also issue this important caveat: effectiveness relies heavily on the readiness and quality of teachers implementing them”. PBLs take a lot of work and they give teachers the opportunity to collaborate and provide new learning opportunities for their students. With benefits also come challenges, but teachers should be “willing to take risks to overcome initial challenges” (Intel, 2007) because it is a process that will eventually lead to success. For a PBL to succeed, teachers need to fully embrace PBLs, they must have the support of the school and most importantly have time to collaborate and develop the

PBLs. When all of this is in place, project based learning can lead to a wide range of benefits to students (David, 2008).

Conclusion

This review focuses on the components and benefits of Project Based Learning, along with challenges teachers face when implementing PBL. Teachers worry about time; they do not receive support and many do not have the skills and knowledge to implement PBL. By receiving support and training, they are likely to overcome these challenges and feel more confident implementing PBL. Implementing PBL will yield many benefits for all our students. Some of the benefits include an increase in student engagement, student academic growth, development of literacy skills (vocabulary, language, and reading) and development of 21st Learning skills. Project Based Learning allows students to learn through collaboration, problem solving, innovation, research, and with some guidance are able to develop their own knowledge. Likewise, teachers will be able to create PBL units that are cross-curricular and provide students with rich literacy experiences. Students are motivated to complete a project and learn because it has a purpose and they have the freedom of choice. As Vanessa Vega (2015) stated, "Studies have proven that when implemented well, project-based learning (PBL) can increase retention of content and improve students' attitudes towards learning, among other benefits". PBL engages students through a different lens and content becomes relevant to them. Since learning is student centered, it becomes meaningful to them, so they are more likely to gain knowledge, retain it and make academic growth.

Project Based Learning provides social and academic benefits for our diverse

student population. According to the California Department of Education, in the 2015-2016 school year, Hispanic students made up 54% of the public school student population. However, studies show that our Hispanic population continues to remain below average in literacy. This is troubling because Hispanic students account for more than half of our student population. Therefore, it is important that teaching practices implemented reflect and support the changes in education, as well as the needs of our students, because “How these students fare in the educational system in coming years will substantially influence the overall success of public education” (Quirk, Grimm, Furlong, Nylund-Gibson & Swami, 2016, p.814). The Hispanic student population needs learning opportunities where they can develop their skills and make academic growth in areas such as literacy, particularly in their reading levels. Teaching methods such as PBL offer teachers the opportunity to implement instructional practices that have been researched and suggested as “being successful in improving the education of Hispanic students” (Padron, Rivera & Waxman, 2002, p.18).

Chapter 3: Methodology

According to a study by the National Assessment of Educational Progress (NAEP), “only 20% of Latino students met or exceeded grade level norms (scoring proficient or better) in Grade 4 reading” (Quirk, Grimm, Furlong, Nylund-Gibson & Swami, 2016, p.814). With the adoption of the Common Core State Standards (CCSS), and the need to prepare our students to be college and career ready, this statistic is concerning. It is necessary to depart from “traditional teaching methods” and implement instructional practices that will not only focus on the content standards, but also in preparing students for the demands of the 21st Century. More specifically, one of our goals should be to close the achievement gap that exists between Hispanic and White students. A significant gap exists between students in the area of literacy, with many Hispanic students still below grade level standards in reading. Instructional practices, such as Project Based Learning (PBL), that support engagement, cooperative learning and make content accessible to all students, are especially beneficial to our Hispanic student population.

However, the key literature review does not present data or research on the impact PBLs have on Hispanic student academic achievement in the area of literacy. While, many benefits exist and research does support that PBLs can lead to academic achievement, more PBL studies need to be conducted regarding Hispanic students and the effect they have on their academics. This study and data collected in this study aims to answer the questions:

- Do literacy based Project Based Learning (PBL) units lead to reading level academic growth for Hispanic students?

- What are the benefits of PBL for the Hispanic student population?
- What components of PBL support the needs of the Hispanic student population?

This chapter will explain what research methods were used to collect data. It will also describe the participants in the study and the setting in which the study took place. Instruments used and the procedures for this study will be explained. Lastly, I will identify the process used to analyze data gathered.

Design

The design of this study was a mixed methods approach. Conducting research through a mixed method approach allowed me to collect both qualitative and quantitative data. The information and data gathered was qualitative through a survey given to the two 5th grade teachers participating in the study. The survey asked them questions regarding their creation and implementation of the PBL units, whether key components of PBL were implemented and their opinions on their effect on students' reading levels. Quantitative data collected were the STAR Reading grade equivalent (GE) levels of the 5th grade Hispanic students, as well as "Other Ethnicity" students. The "other ethnicities" were grouped together for purpose of this study. The participants section will describe the other ethnicities used in this study. This data supported the research questions and assisted in determining whether literacy based PBL units lead to reading level growth for Hispanic students.

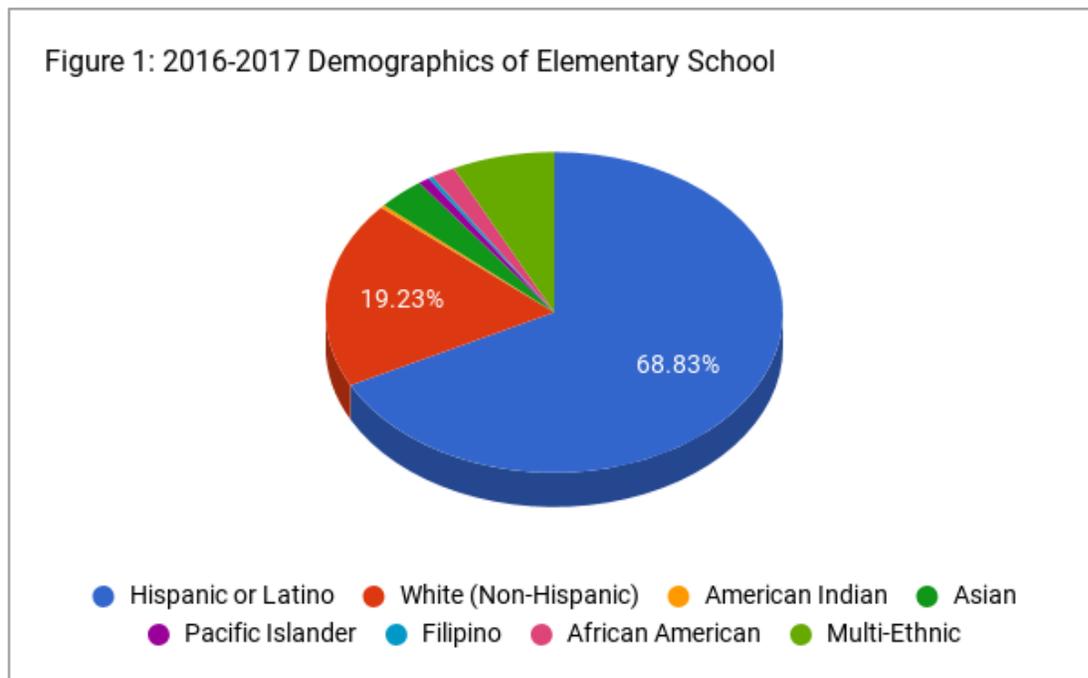
Participants

Teachers and students were the participants in this study. While there are three 5th grade teachers implementing literacy based PBL units, only two of them completed surveys. One teacher has been teaching for 18 years, and this is the first year of

teaching for the second teacher. There are 66 Hispanic students and 36 students that are “Other Ethnicity” in 5th grade. The “Other Ethnicity” students in this study were either American Indian, Asian or Pacific Islander, African American, Filipino, White or Mixed ethnicity. The students in this study range from far below, below, at, and above grade level in the area of reading, based on their reading levels. Reading level data on all students in the grade level was collected. These teachers and students were selected because the 5th grade team at the participating school fully implemented Project Based Learning in their classrooms for the 2016-2017 school year.

Setting

All research was conducted at a TK- 5 elementary school in North County San Diego with a diverse demographic. Figure 1 depicts the percentage of students enrolled at the school during the 2015-2016 school year. It is grouped by racial/ethnic group.



The population of this school has remained relatively stable over the past few years. The school is predominantly Hispanic or Latino. They comprise approximately 69% of the student population.

The Elementary school is a 1 to 1 iPad school, and is focused on technology and innovation. Besides being a 1 to 1 iPad school, they are also a Personalized Learning school. In terms of academics, they are focused on teaching the CCSS, but with Project Based Learning as the engine. While, the elementary school has avenues such as PBL and technology to help students not only learn, but also be innovative and succeed academically, not all teachers are on board with Project Based Learning. At this time, the 5th grade teachers are the only grade level fully implementing PBL units.

Instruments

Data was collected through a mixed methods approach. A qualitative survey was given to teachers to collect information on the PBL units implemented, and reading levels were collected from the STAR reading assessments taken.

Teacher survey. The eight question survey given to teachers was created on Google Forms. The questions asked on the form focused on design, components and implementation of PBL, as well as benefits of PBL for Hispanic students and their reading levels. A section of the survey was short answer. The teachers were asked to explain what was successful in terms of student learning. Sample survey questions include:

1. Did you implement Project Based learning in your classroom this school year?
2. Do you believe that implementing Project Based Learning had an impact on student achievement, specifically in reading? If so, explain. (open ended question)

3. Which of the following elements of PBL were included in your literacy based PBL units? (checklist items are from the Buck Institute for Education(BIE) Essential Project Design Elements Checklist) Please see BIE Essential Elements Checklist (BIE, 2015) for description of elements.

- Key Knowledge, Understanding and success skills
- Challenge Problem or question
- Inquiry
- Authenticity
- Student Voice and Choice
- Reflection
- Critique and revision
- Public Product

STAR Reading assessment. The STAR Reading assessment focuses on the ELA Common Core State Standard areas of “Reading Standards for Literature K–5 and the Reading Standards for Informational Text K–5” (Renaissance Learning, 2015, pg. 17). The STAR GE reading levels of the students were collected for quantitative data. The STAR Reading Enterprise assessment “focuses on measuring student performance with skills in five domains: Word Knowledge and Skills, Comprehension Strategies and Constructing Meaning, Understanding Author’s Craft, Analyzing Literary Text and Analyzing Argument and Evaluating Text” (Renaissance Learning, 2015, pg. 17). The students were assessed three times during the 2016-2017 academic school year. They were assessed in August, November and March. The questions on the assessment include a mix of all five domains. The students receive only one Grade Equivalent(GE)

level for each of the assessments they took. The score that was used for the purpose of this study was the GE level. The GE levels were gathered from the STAR Reading summary report.

Procedures

The 5th grade team was selected for this study because they fully implemented PBL in their classrooms for the 2016-2017 school year. The teachers met over the summer and examined the English Language Arts(ELA) CCSS. They grouped them into three units.

Unit 1: Everglades: An Ecological Mystery

Unit: 2: Blow Your Mind: A Growth Mindset

Unit 3: Extra! Extra! Read All About It! (The American Revolution)

All three units were developed using the ELA standards. However, Unit 1 also included the NGSS standards for Physical Science and Unit 3 included the 5th grade History-Social Sciences standards regarding the American Revolution. All of the units included practice and development of the 21st Century Learning skills. The first unit was developed using the Buck Institute for Education(BIE) project planner. Units 2 and 3 were developed using a template provided by the Assistant Principal at Temple Heights Elementary School. The units were implemented throughout the school year, during the three marking units. Students were given the initial STAR reading assessment in August, prior to the launch of Unit 1. Unit 1 was implement the last week in August. After students completed the second unit in November, the students were given the STAR reading assessment to determine whether they had made reading growth after one unit. Unit 2 was implemented prior to Thanksgiving break. The completion of Unit 2

varied deepening on the teachers. The time frame in which the teachers completed Unit 2 was between the end of January and beginning of March. The students took the STAR assessment again to coincide with the completion of the second unit. Depending on the teacher, the students took the STAR Reading assessment between the end of January and the beginning of March. For the purpose of this study the STAR reading assessment they took after Unit 2, will be labeled as March. Unit 3 was implemented in May. However, student reading data after Unit 3 was not used for the purpose of this study. This was due to end of the year activities such as Open House and CAASPP test. The teachers determined that the STAR reading test might be affected due to end of year distractions.

After completion of Unit 3, teachers were informed regarding consent in participating in the study. They were given 2 days to determine whether they would be willing to complete the survey. Once they gave consent to participate in the study, they were given a survey regarding design and implementation of PBL units, and their opinions on the effect they had on the students and their reading levels.

Permission was given by the principal for the STAR Reading GE levels to be used as data for the study, with the understanding that all names would be confidential. Student grade level equivalent reading levels were collected from the STAR assessment website. The report that was used to access the GE reading levels of the students was the STAR Reading summary report. The GE levels were collected for the months of August, November and March.

Analysis

Once the two participating teachers completed the survey, the data was examined. Their responses regarding elements included in the teachers' PBL units and their opinion on the benefits of PBL for the students, in particular the Hispanic population were recorded. They were then analyzed to find common themes within the teachers' answers. This analysis was done to determine what components of PBL support Hispanic students and the benefits of PBL for this student population.

The STAR reading grade equivalent(GE) levels were gathered for all students in fifth grade for the months of August, November, and March. The report that was used to collect the GE levels for all of the students was the STAR Reading summary report. The August GE levels were taken from the initial STAR reading assessment that the students took for the commencement of fifth grade. The August GE level was the initial set of data collected to determine whether growth was made from August to November. The November and March GE levels were from the STAR reading assessment the students took after completing a literacy based PBL unit. Each student had a total of 3 GE levels for the purpose of this study. The GE levels were recorded on two separate spreadsheets. One spreadsheet was for the 66 Hispanic students and the second spreadsheet was for the 36 students considered "Other Ethnicity". Each spreadsheet included the GE level for each student for the months of August, November and March. It also included the growth, decline or no change from August to November and from November to March. The data was analyzed to look for reading growth among the Hispanic student population. The data was broken down further by determining how

many students made growth from August to November and November to March. The data was coded as follows:

- GROWTH:
 - G1- Growth on November assessment
 - G2- Growth on March assessment
 - GR2 - Growth on both assessments
- DECLINE:
 - D1- Decline on November assessment
 - D2- Decline on March assessment
 - DE2- Decline on both assessments
- NO CHANGE:
 - N1- No change on November assessment
 - N2- No change on March assessment
- COMBINATION OF GROWTH, DECLINE OR NO GROWTH
 - G1N2 - Growth on November assessment and no change on March assessment
 - G1D2 - Growth on November assessment and decline on March assessment
 - D1G2- Decline on November assessment and growth on March assessment
 - D1N2 - Decline on November assessment and no change on March assessment
 - N1G2- No change on November assessment and growth on March assessment

- N1D2 - No change on November assessment and no change on March assessment

The “Other Ethnicity” students were also used in this study. The same information was provided on the spreadsheet that included their data, in order to compare how the Hispanic students fared compared to the rest of the student population. Their data was coded the same. Once the data was coded, charts were made that showed how many students made growth on the November and March assessments, how many students made growth on one assessment but declined or had no change on another, and how many students had no change or declined on both assessments. Since the majority of the students had a combination of growth and decline, the data was examined further. The difference between the March and August GE levels was calculated for each student. This was done to determine whether students made overall growth, declined or had no change from August to March. This additional data was coded as follows

- + for growth
- - for decline
- x for no change.

Conclusion

The Hispanic student population is considered a minority group that makes up a large percentage of the student population in California schools. These students continue to be below grade level in reading. This is in large part because instructional practices used to teach these students are not practices that they benefit from. Presently, the Common Core State standards have increased the rigor of academic content and are aimed to prepare students to be college and career ready, as well as

develop 21st Century Skills. “Traditional” teaching is no longer the answer for the diverse student population and the need to implement instructional practices that all students benefit from is crucial. Project Based Learning is an instructional practice that yields many benefits, especially to the Hispanic student population. However, there is limited research that supports the benefits of PBL for Hispanic students, especially whether academic growth in reading is possible through PBL. This study and the data collected aims to answer the question:

- Do literacy based Project Based Learning(PBL) units lead to reading level academic growth for Hispanic students?
- What are the benefits of PBLs for the Hispanic student population?
- What components of PBL support the needs of the Hispanic student population?

The design used was a mixed method approach. The survey completed by the two teacher participants provided qualitative data. The quantitative data that was used were the STAR Reading grade equivalent levels of the fifth grade students, who received PBL instruction. All participants were from a TK-5 elementary school in North County San Diego. These participants were selected because their grade level fully implemented Project Based Learning in the classroom. The procedures used were effective in allowing for valuable data to be gathered. The qualitative data from the survey was recorded and analyzed for themes. The quantitative data used, the STAR Reading GE levels of each student, were recorded on a spreadsheet and growth, decline or no change was calculated for each student. The students were coded based on growth, decline or both, as well as their overall growth or decline from the initial

assessment to the last assessment. In Chapter 4, the research findings from the analysis will be presented.

Chapter 4: Data Analysis

Hispanic students make up a large percentage of the student population in the state of California. With the implementation of the Common Core State Standards (CCSS) and the high rigor the standards bring to education, it is more crucial than ever that we implement best practices that meet the needs of this growing student population and avoid expanding the achievement gap that already exists. Research shows that Hispanic students continue to be below proficiency in the area of literacy. Traditional teaching no longer meets their academic needs; therefore, it is necessary to research and implement teaching practices that support their diverse needs and promote academic growth.

Project Based Learning (PBL) incorporates best practices that support learning for Hispanic students such as:

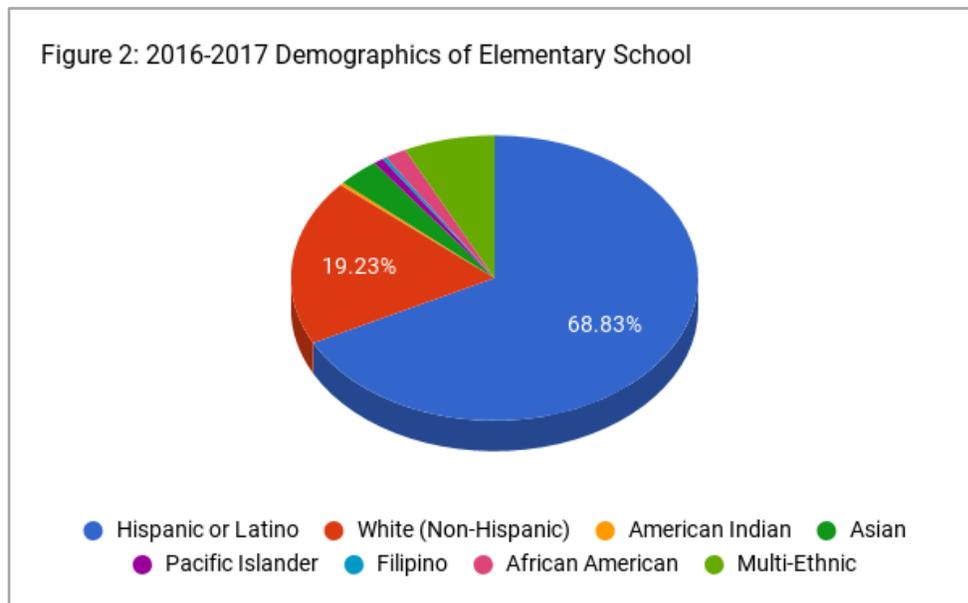
- Access to ELA Common Core State Standards, along with cross curricular standards in Science, Social Studies and Math
- Exposure to rich and diverse text and vocabulary
- Opportunities to communicate/collaborate with other students

While there is some research on the effect PBL has on students, there is not enough research on the effect it has on student academic achievement, in particular in literacy and even more specific on how it impacts Hispanic student literacy growth. The hope of this study is that it will explain and support the benefits of PBL for Hispanic students and add to literature already available regarding PBL, by examining the effect literacy based PBL units had on 5th grade Hispanic student reading levels at one elementary school.

The chapter will present data collected in this study. It will describe the findings from the data and how it relates to the research questions. How the data was analyzed will be explained and interpretations will be gathered based on the data analysis.

Data Representation and Analysis

The research for this study was conducted at a K-5 elementary school where the student population is predominately Hispanic. Figure 2 shows the demographics of the elementary school, by percentage of students per ethnicity, for the 2016-2017 school year. 69% of the student population was Hispanic or Latino, White students accounted for 19% of the student population and 12% of the student population was a mix of either Asian, African American, American Indian or Alaska Native, or Filipino. The White, Asian, African American, American Indian or Alaska Native, or Filipino student population was used in this study as “Other Ethnicity”.



In looking at the school population, we know that Hispanic students make up the majority of the student population at the elementary school used in this study.

In this study, the STAR Reading summary report was run three different times during the school year. The quantitative data collect was the STAR Reading grade equivalent (GE) levels of the Hispanic students and the “Other Ethnicity” students in fifth grade, at one elementary school. The reports were run in August, November and March. For the March report, depending on the teacher, the window in which the students took the STAR Reading assessment for their third score, fell between the end of January and the beginning of March, to coincide with the completion of the second PBL unit. For the purpose of this study the STAR reading assessment they took after Unit 2, will be labeled as March. The August assessment provided the initial GE reading level for each student. The November and March assessment provided the GE reading levels of each student after the completion of each literacy based PBL units. The March assessment provided the final GE reading level for the students. The GE reading levels were used to determine whether the Hispanic population of students made growth in reading through literacy based PBL units, while the “Other Ethnicity” students were used as comparison.

The initial set of data used were the August GE levels for the Hispanic and “Other Ethnicity” students. The data was collected to determine whether growth was made from August to November and November to March, and also to see whether overall growth was made from August to March. The November and March GE levels were from the STAR reading assessment the students took after completing a literacy based PBL unit. Each student had a total of 3 STAR Reading levels for the purpose of this study. Once the reports were run, the data was coded and recorded on a spread sheet.

One of the spreadsheets was for the 66 Hispanic students and the second spreadsheet was for the 36 students considered “Other Ethnicity”. The “Other Ethnicity” data was used in order to compare how the Hispanic students fared compared to the rest of the student population. Their data was coded the same. Each of the spreadsheets included the following:

- The reported Grade Equivalent reading levels and what grade level they represent (ex. 1.0-1.9 = First Grade; 2.0-2.9 = Second Grade; 3.0-3.9 = Third Grade; 4.0-4.9 = Fourth Grade; 5.0-5.9 = Fifth Grade)
- The STAR Reading GE level for all students for the months of August, November and March
- Growth, decline or no change difference from August to November, with the corresponding code
- Growth, decline or no change difference from November to March, with the corresponding code
- Growth, decline or no change difference from August to March, with the corresponding code

The data was coded as follows:

- GROWTH:
 - G1- Growth on November assessment
 - G2- Growth on March assessment
 - GR2 - Growth on both assessments
- DECLINE:
 - D1- Decline on November assessment

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- D2- Decline on March assessment
- DE2- Decline on both assessments
- NO CHANGE:
 - N1- No change on November assessment
 - N2- No change on March assessment
- COMBINATION OF GROWTH, DECLINE OR NO GROWTH
 - G1N2 - Growth on November assessment and no change on March assessment
 - G1D2 - Growth on November assessment and decline on March assessment
 - D1G2- Decline on November assessment and growth on March assessment
 - D1N2 - Decline on November assessment and no change on March assessment
 - N1G2- No change on November assessment and growth on March assessment
 - N1D2 - No change on November assessment and no change on March assessment

Once the data was coded on the spreadsheets, charts were made that showed the percentage and number of students in each STAR Reading GE group, as well as how many students made growth, declined or had no change, from August to November and November to March.

The GE levels are reported as follows:

- 1.0-1.9 = First Grade
- 2.0-2.9 = Second Grade
- 3.0-3.9 = Third Grade
- 4.0-4.9 = Fourth Grade

- 5.0-5.9 = Fifth Grade
- 6.0-12.9 = Above Grade Level

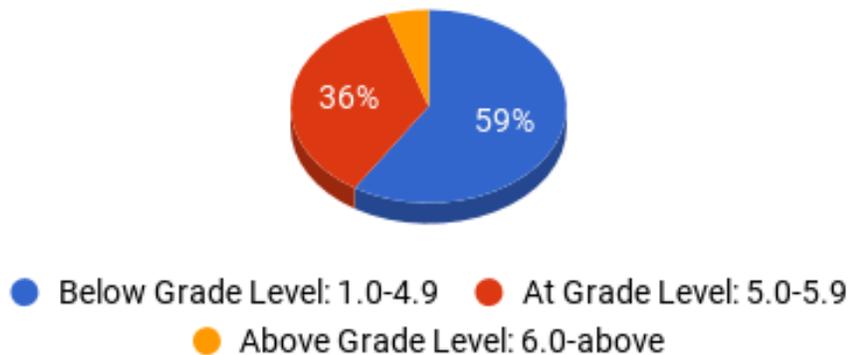
They were then broken down into 3 GE reading level groups:

- 1.0-4.9 - Below Grade Level
- 5.0-5.9 - At Grade Level
- 6.0 and above - Above Grade Level

Fifth grade students that have a GE reading level between 1.0-3.9 are considered below grade level. While fifth grade students with a GE reading level of 4.0-4.9 are considered to be approaching grade level, they are still part of the below grade level group.

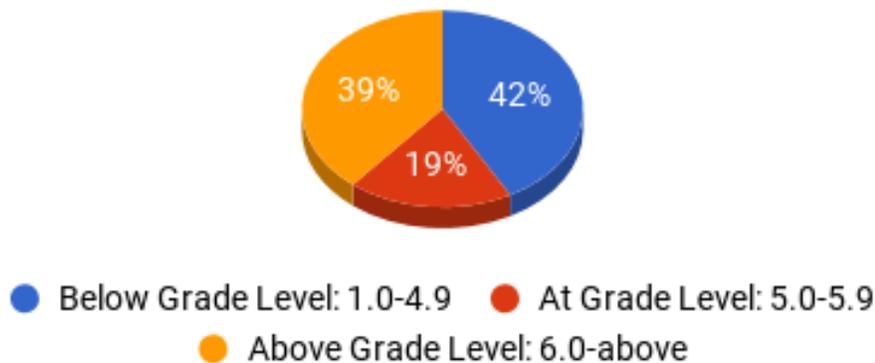
Figures 3 and 4 show the initial GE levels for the Hispanic and “Other Ethnicity” student population, respectively. These GE levels were collected from the initial assessment that was taken by the students in August. It is broken down by GE reading level groups and the percentage of students in each STAR Reading GE level group. Based on Figure 3, after the initial STAR reading assessment, 59% of the Hispanic student population was below grade level in reading, 26 % was at grade level and 5% was above grade level, at the beginning of the school year.

Figure 3: Percent of Hispanic students in each STAR Reading GE level group (August 2016 - initial STAR Reading assessment)

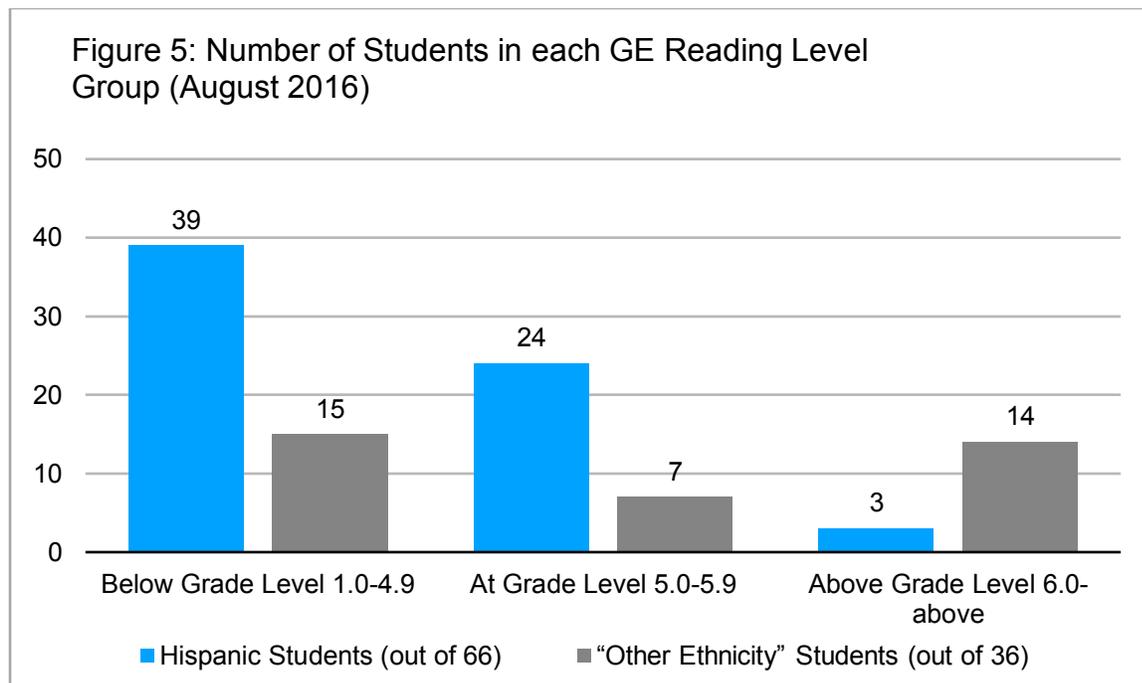


That is in stark comparison to the “Other Ethnicity” population. Figure 4 shows that 42% of the “Other Ethnicity” student population was below grade level in August, 36% was at grade level, and 19% above grade level.

Figure 4: Percent of "Other Ethnicity" students in each STAR Reading GE level group (August 2016 - initial STAR Reading assessment)

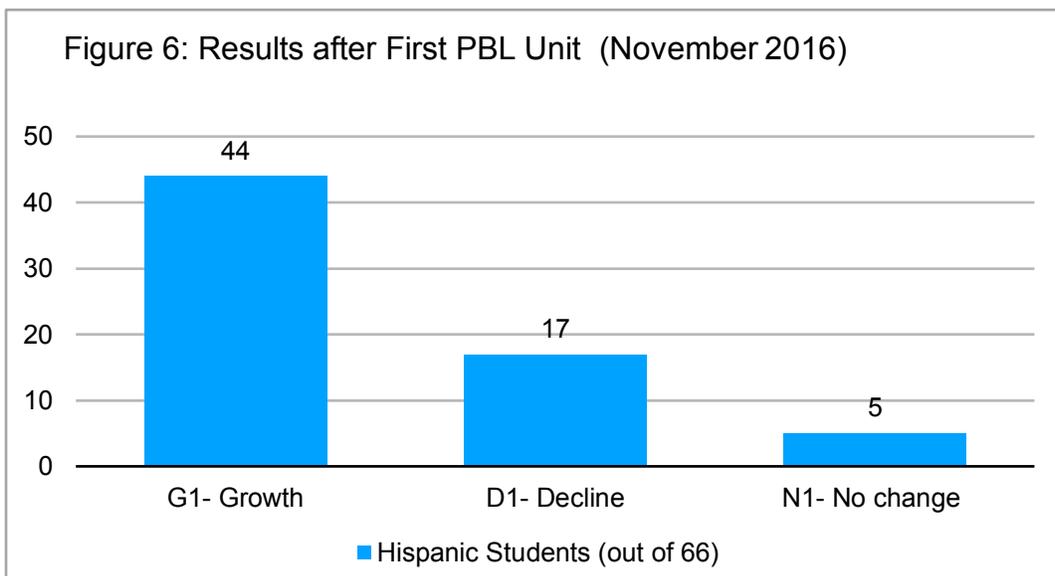


To look at this data in a different perspective, Figure 5 shows the number of Hispanic and “Other Ethnicity” students in each GE reading level group.



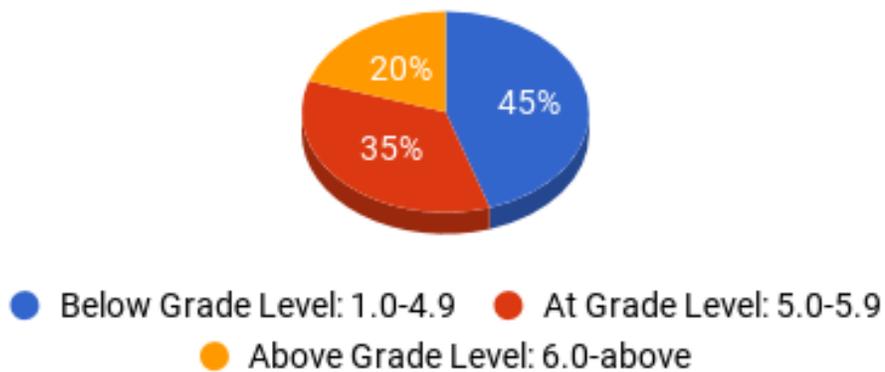
The students took the STAR reading assessment again after the first marking period (November), which coincided with the completion of the first literacy based PBL unit, *Everglades: An Ecological Mystery*. To determine how many of the Hispanic students made growth, the coded spreadsheet was used. The spreadsheet included the difference between the November GE level and the August one. The students were coded based on growth, decline or no change. If a student had a code of G1, they made growth from August to November. If a student had a code of D1, they declined from August to November. If a student was coded with N1, they did not have a change in level.

Figure 6 shows the number of Hispanic students that made growth, declined or had no change in their GE reading level. after the November STAR Reading assessment. 44 out of 66 students made growth, 9 declined and 5 had no change in their grade equivalent reading level. While they made growth, this chart only tells us whether they made growth, declined or had no change. It does not tell us whether students have moved from below grade level to at or above grade level.



Figures 7 and 8 provide more information in regard to how many students were in each GE reading level group after the November assessment. Figure 7 provides the percentage of students in each STAR Reading GE group for the month of November. In August, 59% of the Hispanic students were below grade level in reading, and in November only 45% of Hispanic students were below grade level in reading. The percentage of Hispanic students that were at grade level went from 36% to 35%, but this is only because the percentage of students that were above grade level went from 5% in August to 20% in November.

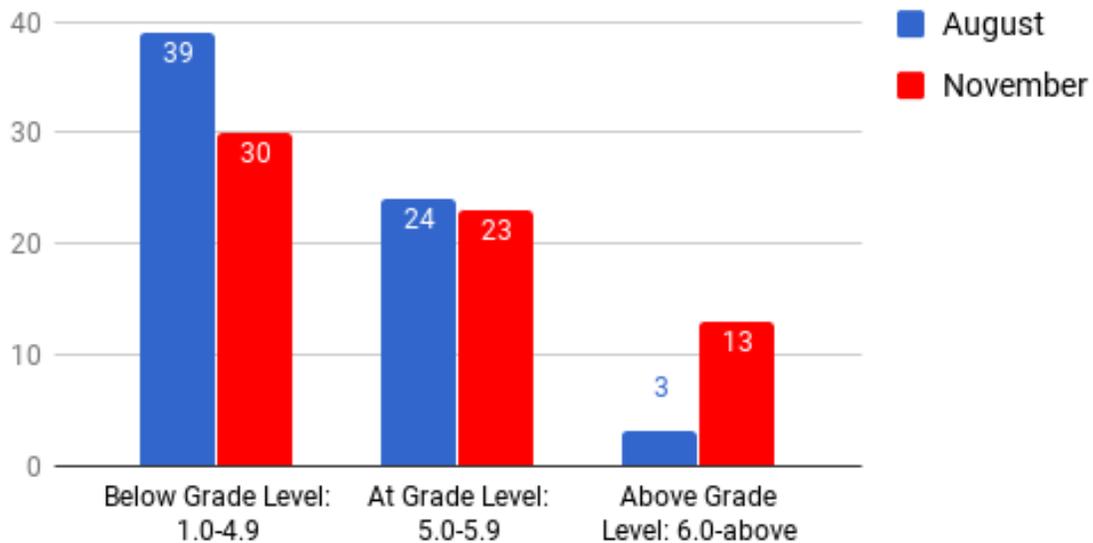
Figure 7: Percent of Hispanic students in each STAR Reading GE level group (November 2016 - STAR Reading assessment)



To look at the November GE levels break down a bit further, Figure 8 shows the number of Hispanic students in each GE reading level group after the November assessment. From August to November, 9 Hispanic students moved from below grade to either at or above grade level, 1 student moved from at grade level to either below or above grade level and the number of students that were above grade level went from 3 to 13 students. Further evaluation of the data can explain the movement between groups more in depth. However, the data shows that growth is happening, whether it is

due to the literacy based PBL units, is still to be determined. The survey data will be analyzed to determine whether students made growth due to the literacy based PBL units.

Figure 8: Number of Hispanic students in each GE reading level group



After the second literacy based PBL, *Blow Your Mind: A Growth Mindset Journey*, the students took the STAR reading assessment again. The GE reading levels from this assessment were used to determine whether the Hispanic students made additional growth after the second PBL unit.

The coded spreadsheet was used to determine how many Hispanic students made growth, declined or had no change in GE reading level. Figure 9 shows how many students made growth, decline or had no change in GE level after the second literacy based PBL unit. Based on this graph, it is difficult to determine which students made growth and which ones declined. Likewise, it is difficult to determine how many students were still below grade level and how many were at or above grade level.

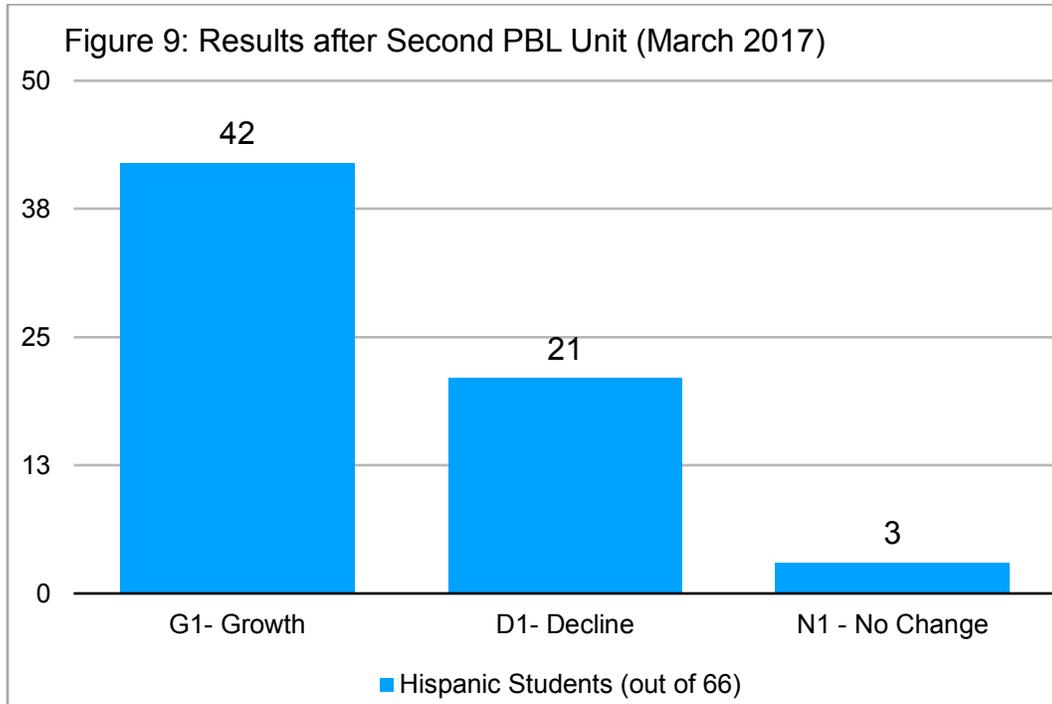
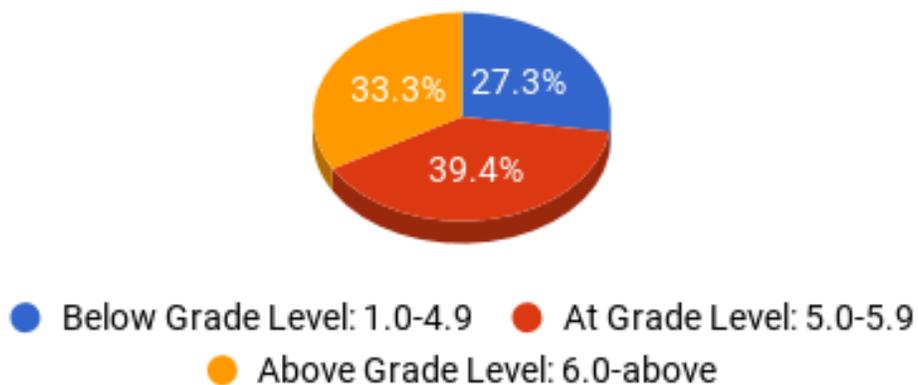


Figure 10 shows the percentage of students in each STAR Reading GE group on the March report. In August, 59% of the Hispanic students were below grade level and in November, after the first literacy based PBL unit, only 45% were below grade level in reading. After the second literacy based PBL unit, only 27.3% of the Hispanic students were below grade level in reading.

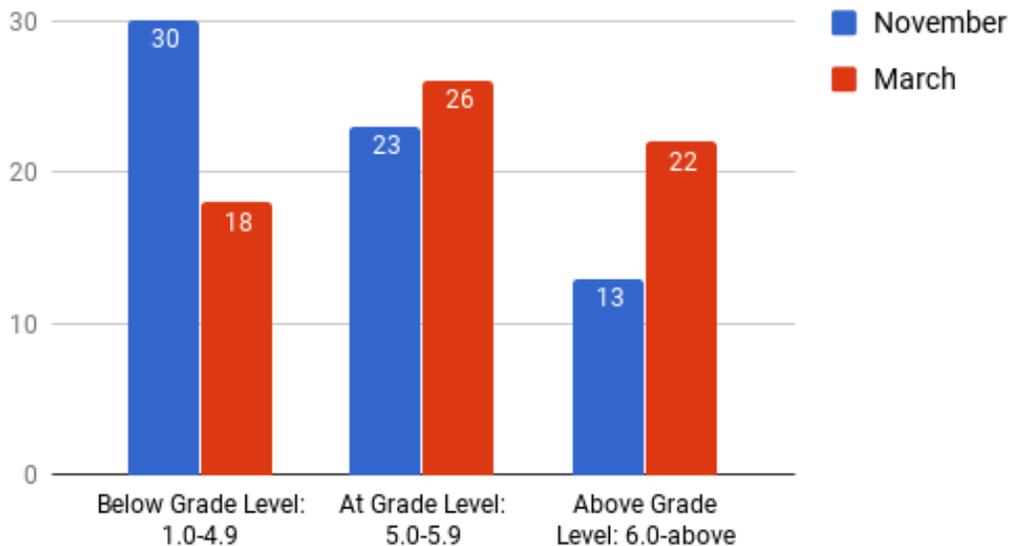
Figure 10: Percent of Hispanic students in each STAR Reading GE level group (March 2017 - STAR Reading assessment)



After two literacy based Project Based Learning units, the percentage of students that were below grade level went from 59% in August, to 45% in November and then to 27.3% by March. The percentage of Hispanic students that were at grade level went from 36% in August, to 35% in November and then to 39.4% by March. Even more eye opening, is that the number of students reading above grade level went from 5% in August, to 20% in November and to 33.3% by March.

To look at this data a bit further in terms of the number of students in each GE reading level group, Figure 11 shows the number of Hispanic students in each GE reading level group after the March assessment. Figure 11 shows that from November to March, 12 Hispanic students moved from below grade to either at or above grade level, 3 students moved to either below or at grade level and 8 students moved into the above grade level GE reading level group.

Figure 11: Number of Hispanic Students in each STAR Reading GE level group



Upon coding and charting the data, it was evident that 37 of the students had a combination of either growth, decline or no change. Since it is normal for students to

fluctuate in levels, the data was examined further to determine if overall growth was made from August to March. The difference between the March and August GE level was calculated for each student to determine whether students made overall growth, declined or had no change from August to March. This additional data was coded as follows

- + for growth
- - for decline
- x for no change.

Figure 12 shows how many Hispanic students made overall growth from August to March, how many declined and how many had no change. While 13 Hispanic students declined and 1 student had no change, 52 students made growth in reading from August to March. The growth students made ranged from 0.1 to 3.5. This equates to 1 month to 3 years and 5 months growth.

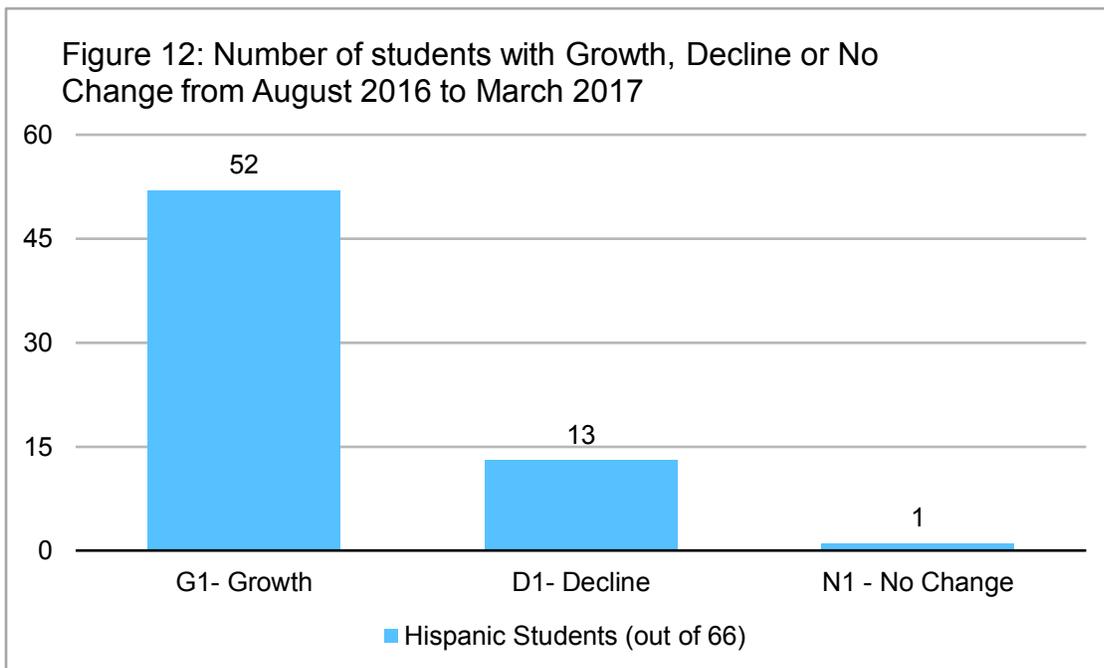
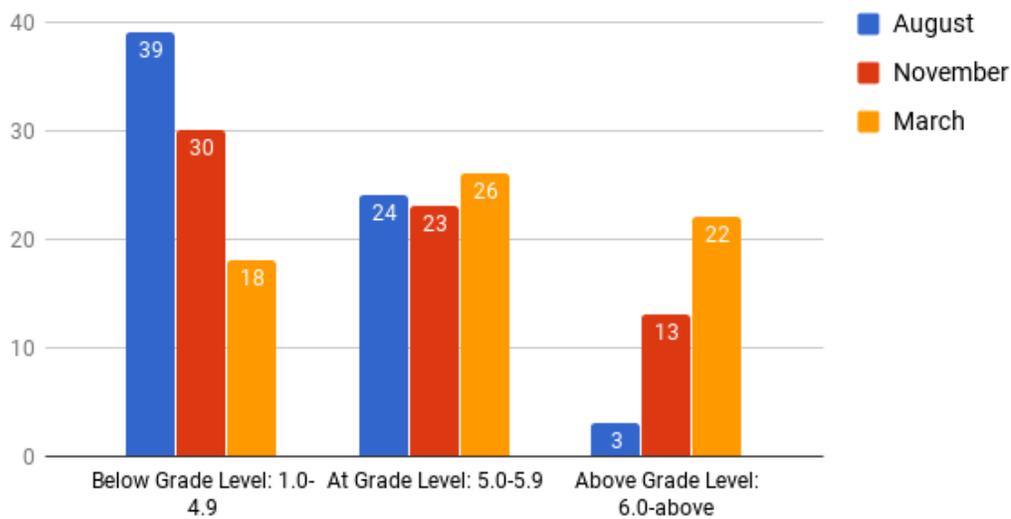


Figure 13 shows a comparison of the number of students in each GE reading group for the months of August, November and March. The chart shows that the number of Hispanic students below grade level declined from August to March. The number of Hispanic students at grade level increased from August to March, as well as the number of Hispanic students that were above grade level. Based on the data, it is evident that reading level growth was made after two literacy based Project Based Learning units.

Figure 13: Comparison of the number of Hispanic Students in each GE reading group for the months of August, November and March



To support the quantitative data, qualitative data was collected through an eight question Google Form survey. One of the questions was a yes or no answer, three questions were select all that apply and 4 questions were open ended. The survey was completed by two of the fifth-grade teachers that implemented the literacy based PBL units in their classroom. The “yes or no” and “select all that apply” questions were graphed based on their response. The open-ended responses from the survey were analyzed for similarities based on their word usage and then grouped by theme.

Both teachers completed the survey and stated that they implemented Project Based Learning in their classroom for the 2016-2017 school year. When the teachers were asked:

Which of the following elements of PBL were included in your literacy based PBL units?

- Key Knowledge, Understanding and success skills (21st Century Skills)
- Challenge Problem or question
- Inquiry
- Authenticity
- Student Voice and Choice
- Reflection
- Critique and revision
- Public Product

they agreed that their units included Key Knowledge, Understanding and success skills (21st Century Skills), a Challenge Problem or question, Student Voice and Choice, Reflection and a public product. Only one of the teachers felt that their PBL units included inquiry, authenticity, and critique/revision.

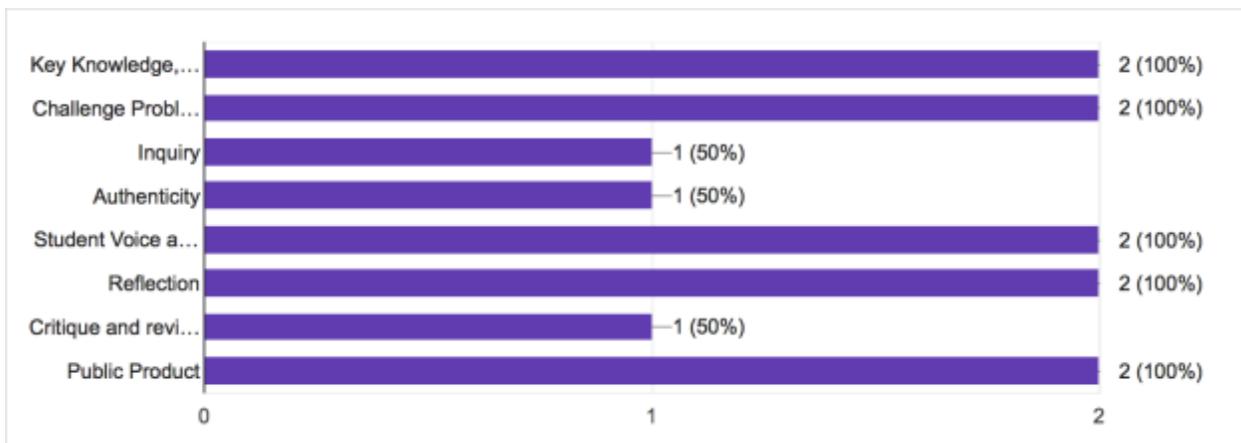


Image 1: Teacher Responses to PBL elements survey question.

When the teachers were asked:

What elements or components of your PBL units, do you feel had the most impact on reading level growth?

- Key Knowledge, Understanding and success skills (21st Century Skills)
- Challenge Problem or question
- Inquiry
- Authenticity
- Student Voice and Choice
- Reflection
- Critique and revision
- Public Product
- ELA Content Standards
- Exposure to a wide range of text (informational, fiction, research)

they both stated that a public product, ELA content standards and exposure to a wide range of text (informational, fiction, research) had the most impact on reading level growth.



Image 2: Teacher responses to elements/components of PBL that impacted student reading level growth.

Only one of the teachers felt that Key Knowledge, Understanding and success skills (21st Century Skills), a Challenge Problem or question, and authenticity had an impact on reading level growth.

The teachers were also asked what English Language Arts standards/areas were included in one or more of your PBL units. They both agreed that their PBL units included:

- Reading: Literature
- Reading: Informational Text
- Reading: Foundational Skills
- Writing
- Speaking and Listening
- Language

Their answers to the “select all that apply” questions, supported the following themes found in the literature review:

- The need for PBLs to include the essential components/elements of PBL; a need to know, a driving question, student voice and choice, 21st Century skills, inquiry and innovation, feedback and revision, and a public project
- PBLs should include CCSS, in particular literacy standards, and exposure to a variety of literary sources

The survey also included the following open-ended questions:

- What types of text did the students have access to? Please explain.
- Do you believe that implementing Project Based Learning had an impact on student achievement? Please explain

- 64% of your students are Hispanic, do you feel that implementing Project Based Learning had a positive impact on their learning, specifically growth in reading? Please explain.
- If you answered yes to the previous question, what elements or components of PBL instruction supported their growth in reading? How is this support different than traditional teaching?

Their responses to these questions were analyzed by looking for similarities in their word usage. Words or phrases with a similar theme were color code to determine which theme they belonged to. After color coding the words or phrases, they were grouped by themes. Each of the following themes reflect themes found in the literature review:

- **Elements of PBL**

- Driving Question
- Public Product, Product to display learning, Product would be public
- Seek answers, More information (Inquiry)

- **Standards**

- Synthesize information
- Reading, Read and write
- Vocabulary
- Integrate it with other subjects (in regard to content)
- Aligned to standards
- text across genres

- **Literacy and Text Exposure**

- Fiction, Non-fiction, Elements of fiction and non-fiction
- Multiple Experiences with text across genres
- Vocabulary

- **21st Century Skills**

- Community, Communicating to an audience
- High level of collaboration

- **Engagement**

- Buy-in, Invested
- Motivation
- Student Engagement
- High interest in content, High Interest
- Highly engaged in reading, want to learn and read about the content
- Purpose for learning

- **Academic Growth**

- Largest growth in the area of reading and writing
- Hispanic students in my class grew in their reading levels
- 8 students had reclassified and were at or above grade level in all academic areas

- **Instructional Practices and benefits for Hispanic students**

- Domain specific vocabulary
- High interest in the content, Highly engaged in reading
- Read and write

- Fiction and non-fiction texts, Multiple experiences across genres
- Connected to school, community
- Purpose for learning
- Public product
- Content integrated with other subjects, Aligned to standards
- High level of collaboration
- Communicating to an audience

Each of these themes reflect the literature review because they support the need for PBLs to include:

- Key elements/component of PBL (inquiry, driving question, public product)
- Common Core State Standards (ELA and cross-curricular)
- Opportunities for students to develop 21st Century Skills

The themes also support the literature review themes that were focused on the benefits of PBL. These benefits include:

- Opportunities for students to develop 21st Century Skills
- Student Engagement/Motivation
- Academic Growth for all students
- Opportunities to incorporate instructional practices that support Hispanic students (literacy standards, exposure to rich and diverse text, vocabulary, collaboration)

The following section will interpret the results from the mixed methods data that was analyzed, as they relate to the following research questions:

- Do literacy based Project Based Learning(PBL) units lead to reading level academic growth for Hispanic students?

- What are the benefits of PBLs for the Hispanic student population?
- What components of PBL support the needs of the Hispanic student population?

Interpretations

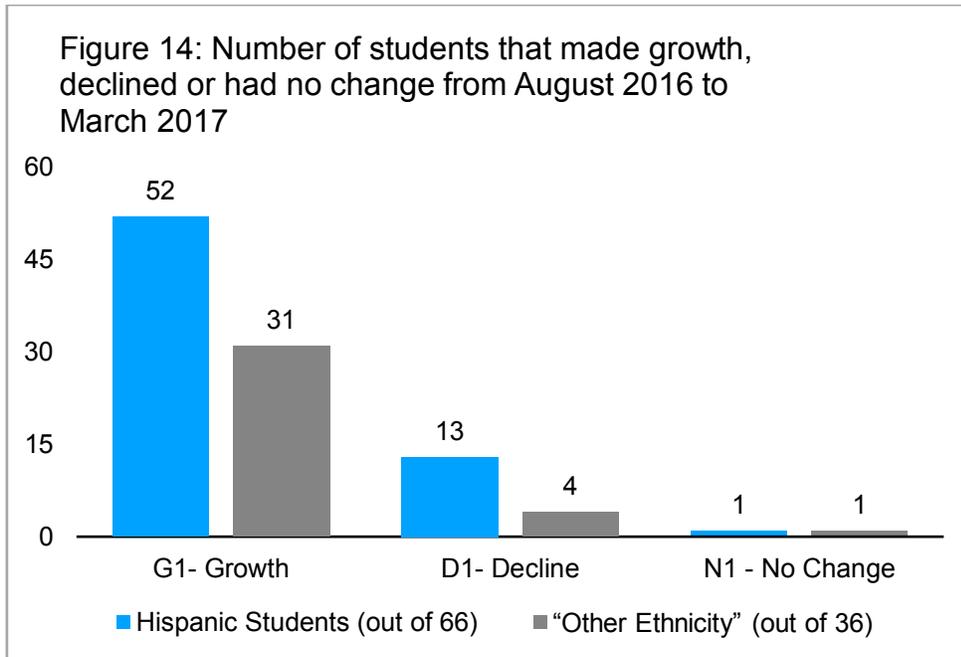
The study began by examining the STAR Reading grade equivalent (GE) levels of the fifth grade Hispanic students to determine whether literacy based PBL units lead to reading academic growth for Hispanic students. Figure 3 showed the percentage of Hispanic students in each STAR Reading GE level group after the initial August assessment. The data showed that 59% of the Hispanic student population was below grade level in reading, 26 % was at grade level and 5% was above grade level. To compare their data, Figure 4 showed that the 42% of the “Other Ethnicity” students were below grade level in August, 36 % were at grade level and 19% above grade level.

After completing the first literacy based PBL unit of the year, the students took the STAR Reading assessment again in November. Based on the coded data, 44 out of 66 Hispanic students had made growth, 17 had declined and 5 had no change in their GE level. While this data does not tell us how many were still below grade level, it does support the research question. Hispanic students did make reading growth. Further analysis of the November data showed that 45% of the Hispanic students were below grade level, 35% were at grade level and 20% were above grade level. In comparison, 26 out of 36 of the “Other Ethnicity” students had made growth, 9 declined and 1 had no change in their GE level. Their November GE levels showed that 28% were below grade level, 25% were at grade level, and 47%. The data shows that both population of students made growth after they completed their first literacy based Project Based Learning unit, *Everglades: An Ecological Mystery*.

After the second literacy based Project Based Learning unit of the year, the students took the STAR Reading assessment again. The time frame in which they took the assessment varied between end of January and beginning of March to coincide with the completion of the unit. The date in which they took the assessment depended on when the students completed the second PBL unit. The report for this data was run in March. The March report showed that 42 out of 66 Hispanic students had made growth, 21 had declined and 3 had no change in their GE level. This data also supports the first research question. Hispanic students continued to make reading growth. However, in looking at the data, it shows that 21 students declined in their GE reading level. Even though 32% students of the Hispanic students declined, 64% made reading level growth after the second PBL unit. This data only tells us that Hispanic students made growth. In looking at the percentage of students in each STAR Reading GE level group, it was evident that growth was made after second literacy based PBL unit. The data showed that 27.3% of the Hispanic students were below grade level, 39.4% were at grade level and 33.3% were above grade level.

In comparison, 27 out of 36 of the “Other Ethnicity” students had made growth, 9 declined and 0 had no change in their GE level. The March report data showed that 16% were below grade level, 28% were at grade level, and 55% were above grade level. The data shows that both population of students made additional growth after they completed their second literacy based Project Based Learning unit, *Blow Your Mind: A Growth Mindset Journey*.

Since it is normal for reading levels to fluctuate, the data was coded to determine if overall growth was made from August to March. Figure 14 shows how many of the Hispanic and “Other Ethnicity” students made growth, declined or had no change.



The difference between the March and August GE reading levels, for both population of students, was calculated to determine how many students made growth in GE reading levels. 78% of the Hispanic students and 86% of the “Other Ethnicity” students made overall growth from August to March. The data suggest that literacy based Project Based Learning units had an impact on the reading levels of the Hispanic student population, with 78% of the Hispanic students making growth. Furthermore, in August 31% of the Hispanic students were at or above grade level, but after the second literacy based PBL unit, 72.7% of the Hispanic population was at or above grade level. In August 58% of the “Other Ethnicity” students were at or above grade level and after the second literacy based PBL unit, 83% of the “Other Ethnicity” students were at or above grade level. The data suggests that not only did the literacy based PBL units have a

positive impact on reading level academic growth for the Hispanic students, but it also lessened the gap between the amount of Hispanic and “Other Ethnicity” students that were at or above grade level.

- August:

- Percentage of “Other Ethnicity” students at or above grade level: 55%
- Percentage of Hispanic students at or above grade level: 31%
- Difference: 24%

- By March:

- Percentage of “Other Ethnicity” students at or above grade level: 83%
- Percentage of Hispanic students at or above grade level: 72.7%
- Difference: 10.3%

The quantitative data suggests that literacy based Project Based Learning (PBL) units lead to reading level academic growth for Hispanic students and for the “Other Ethnicity” students as well. When both teachers were asked, Do you believe that implementing Project Based Learning had an impact on student achievement? Please explain.”

Teacher 1 stated:

Yes, students had a lot of buy-in to the units and driving questions, therefore they had a lot of motivation to seek answers in their reading and read more to learn more information.

Teacher 2 stated:

Project Based Learning has had the largest impact of any instruction that I have used in the past 18 years of teaching. I have seen the largest growth in the area of reading and writing. Student engagement is incredible. They are invested in the learning and project. Working with a team and having a public product adds a layer of accountability for each student. When I began using PBL units 60% of my 4th grade class was reading below a 2nd grade level. After a year of PBL only 10% of students were below grade level and all students had made a minimum of one year growth. Keeping the same students for 5th grade had the same results. At the end of the 5th grade year only 1 student was below grade level in reading or writing.

They both agreed that PBL had an overall impact on student achievement, in particular in reading, because students had buy-in, were motivated and engaged. They had opportunities to read and work in teams, as well as complete a public product.

The qualitative survey completed by the two teachers supported the impact PBL had on student achievement, but more specifically it supported the benefits of PBLs for the Hispanic student population. When both teachers were asked, "65% of your students are Hispanic, do you feel that implementing Project Based Learning had a positive impact on their learning, specifically growth in reading? Please explain".

Teacher 1 stated that:

Yes, because they were exposed to a lot of domain specific vocabulary where they had high interest in the content. The students had to read and write about

both, fiction and non-fiction texts and many of the Hispanic students in my class grew in their reading levels.

Teacher 2 stated:

When I began using PBL there were nine ELD students in my class. At the end 8 students had reclassified and were at or above grade level in all academic areas. The one student who did not reclassify started at a beginning first grade level and after two years was at a beginning fifth grade level. The projects and community had an extreme impact on my Hispanic students. They felt connected to school and had a purpose for learning. Inviting the community and parents to see our completed products gave them a feeling of pride.

Both teachers agreed that PBL had a positive impact on their reading. Both teachers stated that their Hispanic students grew in their reading levels.

They also stated that exposure to vocabulary and diverse text, high interest content, opportunities to read, write and speak, a sense of community and having a public product had an impact on the Hispanic student population. Their survey responses also supported the research question: What components of PBL support the needs of the Hispanic student population? When they were asked, "What elements or components of PBL instruction supported their growth in reading? How is this support different than traditional teaching?"

Teacher 1 stated:

The public product element drove students to want to learn and read about the content. Since they had high interest and knew their product would be public, they were highly engaged in the reading. This is different than traditional teaching

because rather than just learning about the content and moving on, students had to integrate it with other subjects and use it to create a product to display their learning.

Teacher 2 stated:

The whole PBL piece is essential in the success of students. Making sure that the project is aligned to the standards, providing multiple experiences with text across genres, a high level of collaboration, and communicating to an audience all impact students reading and writing.

Not only was having a public product a component that made learning purposeful and high interest, but it also made the Hispanic students want to read and write. The PBL units also included content that was integrated with other subjects and were aligned to the standards. The students also had access to text across genres, and opportunities to collaborate and communicate with others.

The findings support the need for educational practices such as Project Based Learning to be implemented in classrooms. Schools, teachers and students can benefit from Project Based Learning because it allows for cross-curricular CCSS to be embedded into units, innovation, development of 21st Century skills, and academic growth for all students. While this data only focused on 66 Hispanic students, the positive impact two literacy based PBL units had on not only their engagement/motivation, but more importantly their reading levels, is something worth exploring. The comparisons between the Hispanic and “Other Ethnicity” students suggest that it is possible to lessen the academic gap between two different populations of students through and instruction practices such as Project Based Learning. While

many factors may affect whether students make growth through Project Based Learning, the data in this study supports that PBL did lead to reading level growth for the fifth grade Hispanic students, at the elementary school in which this study was conducted. It is important that continued research should be explored in the area of Project Based Learning.

Conclusion

The data suggest that the Hispanic population of students made academic growth in reading due to the implementation of PBL. The percentage of students below grade level in reading went from 59% to 27.3% over a span of 6-7 months. Through these PBL units, these students are being exposed to rich literature (fiction and informational text), vocabulary and text analysis. They are also given the opportunity to be innovative, have choice, to collaborate and to strengthen their 21st century skills. The question remains is this due to the use of literacy based PBLs or are there other factors that are contributing to academic growth. Further studies can determine whether literacy PBL units have an impact on reading level growth.

Chapter 5 will summarize and interpret the results and findings from the study. It will also explain implications from the study and how it adds to previous research on PBL. Limitations from this study will also be presented, as well as recommendations for further research regarding Project Based Learning and its effect on academic growth for Hispanic students.

Chapter 5: Recommendations

The purpose of the study is to determine the effect that literacy based Project Based Learning units have on the reading levels of the fifth grade Hispanic students, at one elementary school. The study answers the following research questions:

- Do literacy based Project Based Learning(PBL) units lead to reading level academic growth for Hispanic students?
- What are the benefits of PBLs for the Hispanic student population?
- What components of PBL support the needs of the Hispanic student population?

Sixty-six (66) Hispanic students, thirty-six (36) “Other Ethnicity” students, and two teachers were the participants in this study. The “Other Ethnicity” students were used as a comparison group. A mixed methods approach was used to gather the data for this study. A qualitative, eight question, survey was completed by the participating teachers. The survey includes questions regarding the elements in the PBL units that support the needs of the Hispanic students, as well as their opinion on whether or not the PBL units lead to reading level growth and the benefits of PBL for the students, in particular the Hispanic population. The quantitative data collected was the STAR Reading Grade Equivalent (GE) levels for all the student participants. The initial assessment in August serves as the initial reading level to determine if reading level growth was made. The GE reading levels were collected two additional times, after the completion of the PBL units.

Chapter 5 interprets and summarizes the results collected in the study, as they relate to the research questions. The results from the study are compared with the research found in the literature review and how this study adds to previous research on

PBL. The limitations in this study are also presented. Recommendations are made for further research regarding Project Based Learning and its effect on academic growth for all students in other academic areas.

Findings Summary/Interpretation

The goal of this study is to determine whether or not the fifth grade Hispanic student population, at one elementary school, made reading level growth while learning through Project Based Learning units. The quantitative data collected suggest that after two literacy based Project Based Learning units, the fifth grade Hispanic student population made significant growth as compared to their initial assessment in August. The initial STAR Reading Grade Equivalent (GE) levels show that 59% of the Hispanic student population was reading below grade level, 26 % was at grade level and 5% was above grade level. In November, after one PBL unit, the data shows that 44 of 66 students had made growth. 45% of the Hispanic student population was below grade level, 35% was at grade level and the percentage of students above grade level went from 5% in August to 20%. After the second PBL unit, 42 of 66 student students had made reading level growth. The percentage of students that were below grade level went from 59% in August, to 45% in November, to 27.3% by March. The percentage of Hispanic students that were at grade level went from 36% in August, to 35% in November, to 39.4% by March. The data that stood out the most is that the number of students reading above grade level went from 5% in August, to 20% in November and to 33.3% by March. When compared to the "Other Ethnicity" students, the Hispanic student population made similar growth to this population of students. The difference between the percentage of students reading at or above grade level, between the

Hispanic and “Other Ethnicity” students, was 24% in August. After two literacy based PBL units, the difference between the percentage of students reading at or above grade level, between the Hispanic and “Other Ethnicity” students, was 10.3% by March. The data suggests that not only did the literacy based Project Based Learning(PBL) units lead to reading level academic growth for Hispanic students, but it also lessened the reading level gap that existed between the Hispanic and “Other Ethnicity” students.

The qualitative data collected through the teacher participant survey supports that the literacy based PBL units have an impact on the fifth grade student population, especially the Hispanic students. Both teachers agreed that the following are benefits of PBL and also components of PBL that support the needs of the Hispanic student population:

- PBL has a positive impact on the reading levels of the Hispanic students.
- The exposure the students have through the PBL units to vocabulary, diverse text, high interest content, opportunities to read, write and speak have an impact on the reading levels of the Hispanic students.
- The students feel a sense of community.
- Having a public product has made an impact because it is meaningful for the students.
- The PBL units include literacy standards, but they also integrate other standards, such as Science and Social Studies. This allows students access to text across genres and access content rich literature.
- Students are motivated and engaged.
- The students have opportunities to collaborate and communicate with others.

Findings in Context

Based on the data collected, the findings correlate with previous research found in the literature review. Project Based Learning has several elements that should be included in PBL units. According to the Buck Institute for Education (BIE, 2017), some of these elements include:

- Standards- based content
- Opportunities to practice and develop 21st Century skills (communication, collaboration, critical thinking, problem solving)
- A driving question
- Student choice
- Inquiry and innovation
- A Public project

According to the literature review, these elements of PBL are beneficial to all students because they can lead to student engagement and academic achievement. Both teachers agree that the PBL units included the elements listed above. Likewise, they felt that the students were highly engaged, motivated, and invested in their learning because it was purposeful for them. This correlates with the literature review because it mentions that students can succeed academically when learning is meaningful because they are able to retain knowledge and academic content.

The teachers felt that the elements that were included in the literacy based PBL units, support reading level growth for the fifth grade Hispanic student population. As the literature review suggests, Hispanic students need opportunities to access high interest, content rich text and literacy experiences. Likewise, they need time to

collaborate and communicate with other students. Learning also needs to be meaningful to the students. The teachers both felt that the elements of PBL that supported reading level growth for the Hispanic students were:

- Exposure to domain specific vocabulary
- Opportunities to read and write
- Access to fiction and non-fiction text
- A public product that made students feel invested and engaged in their learning
- Content integrated with other subjects, Aligned to standards
- High level of collaboration
- Ability to communicate to an audience

Both the qualitative and quantitative data collected, supports that there are benefits for students, specifically for Hispanic students, through PBL instruction, which corresponds with research found in the literature review.

Implications

This study adds to the current research on PBL because it supports that there are benefits for students when learning through a Project Based Learning approach. While there is research on Project Based Learning and the positive impact it has on student engagement, as well as other benefits it has for students, there is limited research on the effect it has on student academic growth, specifically in reading.

An implication from this study, is that when the fifth grade Hispanic students were exposed to two literacy based Project Based Learning units, many of the students made substantial growth over a 6 - 7 month span. The elements included in the units supported reading level growth for the students. Based on this implication, further

research can be done on what professional development teachers need to create PBL units and implement PBL in their classrooms.

Another implication from this study is that the gap that existed between the fifth grade Hispanic and “Other Ethnicity” population of students lessened after two PBL units. Based on this implication, further research can be done to determine whether there are academic benefits in reading or literacy, from PBL, for other student demographic populations and other grade levels. Likewise, research can be conducted on whether Project Based Learning can help close the achievement gap that exist between populations of students. This research lends itself to further research because the data supports that academic growth is a possible benefit of Project Based Learning.

Limitations

The data collected in this study shows that the fifth grade Hispanic students at one elementary school made reading level growth, after two literacy based PBL units. It also suggests that there are benefits from PBL for this population of students. However, the study was limited. Several limitations existed in this study that further research could account for.

The first limitation is that the study was only conducted at one elementary school and in one grade level. Due to this limitation, only 102 students were participants in this study and they all came from the same grade level. This provided valuable data on the effect PBL has on the reading levels of students, in an upper elementary school grade level. This is a limitation because their age could play a role in their ability to succeed academically through a project based approach, especially because the ability to be independent is essential when completing research and projects. While there were

three fifth grade teachers, only two of the three teachers were able to participate in the study. This limitation limits the responses gathered from the Google forms survey. Since only two teachers participated in the study and completed the survey, it only provides the opinions of two of three teachers at the same grade level. Not all teachers have the same experiences, therefore their responses could vary.

A second limitation in the study is that the study did not have a control group. All of the students in the study received instruction through the literacy PBL units. Therefore, this study only looks at the effect PBL has on all of the fifth grade students, at the elementary school where the study was conducted, as opposed to studying the effect PBL had on one group of students exposed to PBL instruction, over a control group.

A third limitation is that the students at this elementary school also had access to technology, through 1 to 1 iPads. This allowed them to access narrative and expository text through a program called MYON and through text shared by their teachers on Google Drive. They were also able to conduct research easily through teacher provided text, as well as student selected text that supported their PBL project. The iPads also allowed them to create projects that incorporated technology. This is a limitation because not all schools have access to 1 to 1 technology.

Another limitation in the study is that one of the teachers left for maternity leave at the beginning of February. While all of the fifth grade students took the initial August STAR reading assessment at the same time, as well as the November Assessment, the March assessment was taken at a different time by the students in the third teacher's class. All students completed the first literacy based PBL unit during the same week,

therefore, all of the students took the November assessment during the same period. However, due to the third teacher leaving on maternity leave, she had to complete the second PBL unit by the last week in January. Her students took the second STAR reading assessment the last week in January, while the other students took the assessment between the last week in February and first week in March. In further studies, the dates in which units are completed and assessments are taken could be made more consistent through the use of a calendar or pacing guide. Likewise, while the teacher was out, the substitute taught the class. This is another limitation that may have affected the student results/data because students did not receive instruction from the regular classroom teacher.

Regardless of the limitations, the study provides valuable data on the positive effect literacy based PBL units have on the Hispanic student population. Further research can be conducted that continues to look at the effect Project Based Learning has on students.

Future Direction

This study only looks at the effect PBL has on the reading levels of fifth grade Hispanic students at one elementary school. It also looks at an "Other Ethnicity" group to compare how Hispanic reading level growth compares to this group of students. Using a mixed methods approach, reading level data is collected for all of the students and a survey is completed by the participating teachers, that focuses on their opinions on the benefits of PBL and the components that led to reading level growth.

The results from this study and implications made, lend themselves to further research that can be conducted in the future. This study only focuses on one grade

level and a select population of students. Further research should be conducted to determine the effect Project Based Learning has in other grade levels and for other populations of students. A study on the perceptions and beliefs teachers have about PBL could be a possible study. This would allow for more teacher input on the benefits of PBL for students.

Research can also be conducted to determine whether PBL leads to academic growth, as compared to “traditional instruction”. A similar study could be conducted on the benefits of PBL over “traditional instruction”.

Lastly, the study conducted only looks at academic growth in the area of literacy, focusing specifically on reading. The data supports that reading level growth is possible through Project Based Learning. Further research should also be conducted in academic areas such as Math or Science, to determine if academic growth is possible in other academic areas, through Project Based Learning instruction.

Conclusion

Chapter 5 summarizes the results in the study, as well as interprets the findings. The results show that reading level growth was made by the fifth grade Hispanic students, at one elementary school, through literacy based Project Based Learning units. The chapter also makes a correlation between the literature review and the findings in the study, and how the research from this study adds to current research on PBL. Implications are made from the data collected in this study. The implications made were:

- Literacy based Project Based Learning(PBL) units lead to reading level academic growth for Hispanic students

- Literacy based PBL units lessened the reading level gap that existed between the fifth grade Hispanic and “Other Ethnicity” students
- Students engagements is among several benefits of Project Based Learning

Limitations are also discussed and future research is suggested that stemmed from the limitations and the results from the study.

The data collected in this study supports that there are several benefits for students through a PBL approach. Closing the achievement gap has long been an issue in education. In the past, instruction was teacher centered. While some students are successful through teacher centered instruction, not all students benefit from this type of instruction, in particular the minority population. Unfortunately, in the past, instruction was teacher centered. The teacher stood in front of the classroom and lectured, while the students were expected to memorize, take notes and also learn from a text-book. Studies have shown that students, in particular Hispanic students do not benefit from this type of instruction (Padron, Rivera & Waxman, 2002, p.10). According to Padrón and Waxman (2002), they “maintained that there are effective teaching practices that may benefit Hispanic students” (p.12).

With the implementation of the Common Core State Standards and changes in education, it is more important than ever to implement new teaching practices that are student centered, that meet the needs of a diverse student population and prepare students with 21st Century skills. Project Based Learning is one of these teaching practices or methods. Project Based Learning is an instructional practice that allows teachers to incorporate the Common Core State standards, in particular literacy. It provides opportunities for students to engage in their learning and the curriculum

through real world application, it also gives students choice, opportunities to be innovative, problem solve, think critically, and to communicate and collaborate with others. In the article, *Project-Based Learning's Next Project: Understanding When It Works*, Jackie Zubrzycki asks the question, "Can project-based learning help close the achievement gap?" According to her article, new research suggests that when "well-designed and well-taught project-based-learning curriculum can help make a difference for students living in poverty". This research is promising and also supports the results in this study. Not only does Project Based Learning allow all students to develop their 21st Century skills and to access content, but it can also lead to academic growth.

As Nelson Mandela stated, "Education is the most powerful weapon for changing the world". It is important to provide instruction for students that not only engages them and leads to academic growth, but that also prepares them for the 21st Century. Our students are the future and it is crucial that we educate all of our students through instructional approaches that will meet their needs, will help them succeed academically and will prepare them for the future that lies ahead.

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Appendix Item 1: Adult Consent Form



California State University
SAN MARCOS

Literacy Based Project Based Learning and its Effect on Fifth Grade Hispanic Student Reading Levels at One Elementary School

Invitation to Participate

Dear Teacher,

My name is Claudia D'Leon. I am a student in the Masters of Educational Administration program, in the College of Education department, at California State University San Marcos. You are invited to participate in a research study that will focus on the effect Literacy Based Project Based Learning has on student academic growth in reading. You were selected as a possible participant because you implemented Project Based Learning in your classroom, this academic school year. Please read this form carefully. Please feel free to ask any questions, before agreeing to participate in the study. You must be 18 or older to participate in the study.

STUDY PURPOSE:

The purpose of this study is to determine whether Project Based Learning has an impact on the reading levels of the Hispanic student population.

NUMBER OF PARTICIPANTS:

If you agree to participate, you will be one of two teacher participants who will be participating in this research. 102 students that received instruction through Project Based Learning will also be participants in the study. However, the primary focus will be on the 66 Hispanic students.

PROCEDURES FOR THE STUDY:

If you agree to be in the study, you will do the following:

- Complete a survey regarding design and implementation of Project Based Learning(PBL) units and your opinion regarding PBL and its effect on student academic achievement
- The survey is eight questions and should take approximately 15-20 minutes to complete.

RISKS AND INCONVENIENCES:

There are minimal risks and inconveniences to participating in this study. These include:

- Hesitance or discomfort in answering the survey questions
- Time needed to complete the survey
- Loss of confidentiality

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SAFEGUARDS:

To minimize these risks and inconveniences, the following measures will be taken:

- You may skip any question on the survey that you do not feel comfortable answering.
- Two days will be given to complete the survey
- The data collected will remain on a password protected computer and only the researcher will have access to the computer.
- The data will be retained until the study is complete. All digital files will be erased.

CONFIDENTIALITY

Your responses to the survey questions and any names, ID numbers or personal information will remain confidential. The results of this study may be used in reports, presentations, or publications but your name will not be used. Pseudonyms will be used to protect your identity.

VOLUNTARY PARTICIPATION:

Taking part in this study is voluntary. You may choose to not take part or may leave the study at any time. Leaving the study will not result in any penalty. Your decision whether or not to participate in this study will not affect your current or future relations with California State University San Marcos.

BENEFITS OF TAKING PART IN THE STUDY:

There are no direct benefits to participation in this study, however, your participation will help in determining whether there are academic benefits, from Project Based Learning, for a diverse student population. While, there are studies that explain the benefits of PBL, there isn't significant research on the academic impact they have on students, in particular the minority populations.

INCENTIVES FOR PARTICIPATION:

You will not receive payment for taking part in this study. However, you will be compensated with a \$15 Starbucks gift card for completing the survey.

CONTACT INFORMATION AND SIGNATURES:

If you have questions about the study, please call me at 760-525-1476 or e-mail me at dleon001@cougars.csusm.edu. You will be given a copy of this form for your records. If you have any questions about your rights as a participant in this research or if you feel you have been placed at risk, you can contact the IRB Office at irb@csusm.edu or (760) 750-4029.

PARTICIPANT'S CONSENT:

By signing below, you are giving consent to participate in the study

Participant Signature

Printed Name

Date

Appendix Item 2: Teacher Participant Google Forms Survey



Project Based Learning

The following survey will assist me in determining whether literacy based Project Based Learning units have an impact on the reading levels of the Hispanic student population. Please complete the survey regarding design and implementation of Project Based Learning(PBL) units and your opinion regarding PBL and its effect on student academic achievement.

Did you implement Project Based learning in your classroom this school year?

Yes

No

Which of the following elements of PBL were included in your PBL units? Please see BIE Essential Elements Checklist (BIE, 2015) for description of elements.

Key Knowledge, Understanding and success skills(21st Century skills)

Challenge Problem or question

Inquiry

Authenticity

Student Voice and Choice

ReÖection

Critique and revision

Public Product

What elements or components of your PBL units, do you feel had the most impact on reading level growth?

What types of text did the students have access to? Please explain.

Which of the following English Language Arts standards/areas were included in one or more of your PBL units?

Do you believe that implementing Project Based Learning had an impact on student achievement? Please explain

64% of your students are Hispanic, do you feel that implementing Project Based Learning had a positive impact on their learning, specifically growth in reading? Please explain.

If you answered yes to the previous question, what elements or components of PBL instruction supported their growth in reading? How is this support different than traditional teaching?

SUBMIT