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Project-Based Learning and Social-Emotional Learning in the Elementary Classroom: A Qualitative Study on Potential Opportunities for Student Self-Awareness and Social Awareness

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**PROJECT-BASED LEARNING AND SOCIAL-EMOTIONAL LEARNING IN THE
ELEMENTARY CLASSROOM: A QUALITATIVE STUDY ON POTENTIAL
OPPORTUNITIES FOR STUDENT SELF-AWARENESS AND SOCIAL AWARENESS**

A Master's Thesis

Presented to

The Graduate College of
Missouri State University

In Partial Fulfillment

Of the Requirements for the Degree

Master of Science, Elementary Education

By

Kaitlin Eileen Kilby

December 2022

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ABSTRACT

Project-based learning (PBL) is a student-centered instructional practice, emphasizing student agency, engagement, and learning opportunities through relevant problem-solving and interdisciplinary curriculum. PBL also helps students develop academic and social skills through real-world application of their learning. It is necessary for educators, administrators and interested parties in education to understand the potential of PBL and other student-centered practices on increasing student engagement and achievement in subject areas besides sciences and social studies, such as literacy, math, and social-emotional learning (SEL). SEL is necessary for all students to have access to, as engaging with activities that increase a person's ability to understand themselves and the world around them help create well-rounded, empathetic citizens of the world. This study seeks to explore how opportunities may be created for students' social-emotional learning and skill development when experienced through a PBL curriculum within an elementary setting, centering on opportunities for self-awareness and social awareness.

KEYWORDS: project-based learning, social-emotional learning, student-centered, engagement, self-awareness, social awareness, agency, elementary

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December 2022

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In the interest of academic freedom and the principle of free speech, approval of this thesis indicates the format is acceptable and meets the academic criteria for the discipline as determined by the faculty that constitute the thesis committee. The content and views expressed in this thesis are those of the student-scholar and are not endorsed by Missouri State University, its Graduate College, or its employees.

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INTRODUCTION

Standardization is a threat to education. “High-stakes testing and scripted curriculum in K-12 classrooms have resulted in the disempowerment of teachers as well as students,” which is in part due to the lack of change and reform within the system of education (Dole et al. 2016 p. 2). Due to teacher-centered practices focusing on teaching to the test, student compliance, and an emphasis on test scores, students are losing out on valuable learning opportunities, with limited voice and choice in their own educational experiences (Dole et al. 2016; Onosko 2011).

Student-centered teaching practices have the potential to shift education toward something students *experience*, rather than something that is *done to* them. Project-based learning (PBL) is one of these student-centered pedagogical practices. Multiple studies have been conducted to investigate the learning opportunities that PBL provides elementary students with, and these findings include deeper learning, interdisciplinary connections, and higher levels of student engagement to name a few (Duke et al. 2020; Evans 2019; Fitzgerald et al. 2020; Halvorsen et al. 2019; Kaldi et al. 2011; Krajcik et al. 2021). Despite this research though, and in part because some was published only recently, little has transpired in the education system to bring reason to policy makers and interested parties to consider PBL, or even student-centered instruction, as an effective practice, which is because “as education became more directly linked to economic issues, it became a...central part of political rhetoric” (Mehta 2015 p. 23). For the purpose of this paper, effective practice refers to pedagogical methods that center students in their learning and that have or have the potential to consistently result in positive outcomes for all students. Education policies put in place over the past several decades, discussed later in this paper, center around a “political movement...about reasserting who has a right to define what schools are for [and] whose knowledge has most legitimacy,” thus not putting students or

educators at the center of learning and the goings-on in schools which also perpetuates educational inequities (Sleeter and Stillman 2013 p. 266). The education system has varied little from its past, meaning schools are educating students of today with practices that are more traditional and no longer effective for students (Dole et al. 2016; Freire 1970; Hightower et al. 2011). To make education equitable and accessible for all students, it is necessary to continue researching student-centered practices, and due to the recent existing research, PBL is a natural starting point. To continue this research in an area that is lacking within existing studies, the focus of this study will center on analyzing the nature of student learning opportunities in social-emotional learning (SEL) through a PBL unit. It will also attempt to analyze possible changes in student engagement and achievement when engaging in PBL.

Statement of the Problem

Today's students are experiencing education from yesterday's practices. With an emphasis on test scores and compliance, the K-12 education system in the US has yet to fully adopt and value the implementation of practices that benefit all students in their learning and social development, furthering the existing inequities among students; Hernandez et al. (2019) explain that student-centered learning environments "demand highly sophisticated teaching skills, which are not always widely cultivated in the field" (p. 4). Not only that, with "greater rates of teacher turnover" and "less-effective teachers" in schools that serve many low-income and/or minoritized students, inequities in the educational experiences of many students are perpetuated in which these groups of students are not given access to effective practices in education which all students deserve (Hightower et al. 2011). The Quaglia Institute for School Voice and Aspirations (2016) expressed that "developing student voice is not an add-on; it is an

integral part of the daily learning environment” (p. 66). To do this, we need student-centered teaching methodologies to become a part of the classrooms of today. One such practice is project-based learning (PBL).

After analyzing the existing literature on PBL, most address PBL’s benefits and effect on student learning outcomes and engagement in science and social studies; however, literacy, math and social-emotional learning (SEL) are not centered in relation to PBL, despite them being arguably some of the key issues discussed in education today. Fitzgerald (2020) found that despite limited research on PBL in the elementary classroom, “PBL may serve as a powerful instructional context for supporting elementary-grade students’ ...literacy development” (p. 577). With this in mind, PBL could provide students with more authentic, learner-driven experiences which could lead to higher levels of achievement in different disciplines and allow for the development of social skills such as collaboration, self-management, and self-awareness. This brings another problem into focus; ways in which to teach social-emotional learning, the development of social-emotional skills, such as self-awareness, social awareness, relationship building, self-management, and responsible decision-making (CASEL 2022).

Social-emotional learning has become a prominent topic in education, with differing opinions on whether or not it should be taught in schools as it has gained political traction. However, as expressed by Baines (2021), “social and emotional development isn’t an add-on to academic experiences but is integral to those and a core part of a student’s overall education” (p. 2). In other words, SEL is not in addition to learning; it is *a part* of learning and can be taught both in isolation and interdisciplinarily; it is also pertinent to student success in their education and beyond. Dusenbury and Weissberg (2017) explained that across multiple studies related to SEL and its impact on students, “students who received SEL programs performed better than

students who did not,” noting that students who received specific instruction in SEL “showed an 11 percentile-point gain on measures of academic achievement and similar significant improvements in conduct and discipline, prosocial behavior, and/or emotional distress” (p. 38). The purpose of education is to help all students succeed academically, socially, and emotionally, and it is necessary that students receive adequate instruction in which they can develop social-emotional skills; these skills “are critically important to success in work...and employers strongly advocate that education should promote these important ‘21st century skills’” (Dusenbury and Weissberg, 2017 p. 38). While elementary students are not immediately entering the workforce, their primary education experiences have the potential to build a strong foundation of social and emotional skills. In order to help students identify their emotions, communicate with others, demonstrate empathy, make responsible decisions, and understand their perspectives and take on the perspectives of others, SEL is necessary for all students and should be accessible for all students. CASEL’s (2022) competencies for SEL “have universal utility, even if they are often defined, expressed, and achieved differently across cultures” which shows that SEL can be taught in culturally responsive ways and meet the needs of all students (Hecht and Shin 2015 p. 58). With these ideas regarding the positive impact of SEL on students and schools, it is necessary to create student-centered learning environments which do not leave out but intentionally include SEL instruction, for “the most effective way to improve outcomes for all students is to...create a culture and a way of working together in schools that supports everyone’s learning and development” (Allensworth et al. 2018 p. 29). SEL is a foundational part of learning for all students that cannot be ignored within the educational landscape, and opportunities for development in its competencies such as self-awareness, social awareness,

relationship building, self-management, and responsible decision making should be accessible for all students.

Due to both PBL and SEL having repeated positive effects on students and their ability to engage students in social-emotional skills, the focus of this study will center on analyzing the opportunities created for students in an elementary classroom when both PBL and SEL are combined. The study will focus on the SEL capacities of self-awareness and social awareness when taught through a student-centered PBL framework, differing from the teacher-centered approaches that schools continue to practice not just when teaching SEL skills, but in most subjects.

Purpose of the Study

The purpose of this study is to conduct research on PBL where it is lacking literature, specifically opportunities PBL may create for SEL, and to inform educators, school leaders, interested parties, and policy makers about the importance of advocating for student-centered pedagogical practices like PBL for K-12 students, especially when considering how to increase students' social-emotional development. The need for more student-centered pedagogical practices stems from the ineffectiveness of teacher-centered practices at engaging students in authentic inquiry and discovery due to an emphasis on high-stakes testing, which “require[s] students to passively obtain new information and skills in order to do well” (Dole et al. 2016). In other words, teacher-centered practices fail to engage students because they do not give students a voice in their learning experience; when their learning experiences are centered on test scores due to education policies, students (and educators) are left without much voice at all. Students today are being expected to learn in ways that are not conducive to the world in which they live,

which begs the question of what is education for; more importantly, *who* is it for? Most research pertaining to PBL centers around social studies and science because of their foundations in inquiry-based learning. When reviewing the literature, current research about PBL in the elementary classroom was sparse, specifically on the role and impact of PBL on student learning and engagement in subjects such as reading, writing, and math, as well as social-emotional learning. Due to the lack of research not only on PBL within the contexts of these subjects, but on PBL as an instructional method in the elementary classroom, this study would contribute to a critical growing body of research within the areas of PBL. While extensive research exists for the area of SEL and the benefits it has on students when taught explicitly, the research is lacking in how integrating both PBL and SEL could impact students; thus, this research would also contribute to ongoing research regarding SEL. The goal of this study is to further enrich current literature regarding the student-centered practice of PBL as a potential effective practice for students today, as well as advocate for the importance of embedding SEL into curriculum. This study specifically looks at two capacities of SEL, self-awareness and social awareness, when taught through a PBL framework. SEL is a commonly cited educational topic, and by engaging students in SEL through a PBL approach, the results from this study could show that PBL, and potentially other student-centered practices, have the ability to provide more authentic learning opportunities and higher levels of engagement for elementary students within their development of self-awareness and social awareness.

Research Questions

1. How can a social-emotional learning curriculum taught through a PBL framework create opportunities for self-awareness?

2. How can a social-emotional learning curriculum taught through a PBL framework create opportunities for social awareness?

Significance of the Study

It is imperative to the well-being of the students of the K-12 US education system that educators, school leaders, and interested parties have a shared goal of actively working to do what is best for the students they serve. This includes the way students are taught; it is a disservice to students to let them continue to enter and engage in classrooms and schools focused on test scores and compliance and receive instruction that reflects those ideals. Opportunities for creativity, curiosity, and connection are not written into curriculum guides, often getting lost or are omitted completely due to educators needing to rely heavily on these guides to deliver content during classroom instruction. With an intentional focus on utilizing student-centered practices within the classroom, based on this study and the existing literature on PBL, SEL and learning outcomes, these important facets of learning could naturally emerge as a result of shifting to student-centered practices. This would give students the opportunity to thrive in a variety of ways beyond strictly academics. Blumenfeld et al. (1991) explained that through PBL approaches in the classroom, “learners are motivated to persist at authentic problems, meld prior knowledge and experience with new learning, and develop rich domain-specific knowledge and thinking strategies to apply to real-world problems” (p. 371). This application of learning to the real-world should be the purpose of the educational experience for all students; without embedding student voices into the educational experience, students are no longer learning for today. This study is meant to preserve that purpose of the educational experience by contributing to the growing body of research that supports effective practices for all, specifically focusing on two foundational social-emotional skills, self-awareness and social awareness. The information

gained from this study can be used by educators, school leaders, educational consultants, and interested parties to understand the positive impact(s) of PBL on the development of the SEL skills of self-awareness and social awareness, as well as spark conversation surrounding the purpose of education, the need for accessible social-emotional learning for all students, and ways in which more research should be conducted to explore student-centered practices as better practices for equitable educational experiences for every student.

Assumptions

1. The participants will answer questions honestly and to the best of their ability.
2. All participants are in 3rd grade at the same elementary school.
3. The participants will be taught by the same teacher during the time of the day in which the study occurs.

Limitations

1. This study will take place in one elementary school classroom in a suburban school district and the results may not generalize to different populations.
2. The researcher is also the classroom teacher.
3. This study occurs over the course of one school year.
4. This study focuses on PBL and social-emotional learning only.

Definition of Terms

- Education system: for the purpose of this paper, the education system refers to the K-12 public education system in the United States.
- Effective practice: for the purpose of this paper, effective practice refers to pedagogical methods that center students in their learning and that have or have the potential to consistently result in positive outcomes for all students.

- Interdisciplinary: when multiple subjects are embedded together into curriculum, lessons, or activities.
- Learning opportunities: any point during a lesson or activity in which students may be gathering, interacting with or building on their learning.
- Project-based learning (PBL): For the purpose of this paper, “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” (Buck Institute for Education, 2015 para. 3).
- Skill(s) development: the acquisition of skills within the disciplines being taught or engaged in. In this study, skills discussed will be those related to SEL.
- Self-awareness: “the abilities to understand one’s own emotions, thoughts, and values and how they influence behavior across contexts” (CASEL Staff 2022 para. 4).
- Social awareness: “the abilities to understand the perspectives of and empathize with others, including those from diverse backgrounds, cultures, and contexts” (CASEL Staff 2022 para. 4).
- Social-emotional learning (SEL): “the process through which all young people and adults acquire and apply the knowledge, skills, and attitudes to develop healthy identities, manage emotions and achieve personal and collective goals, feel and show empathy for others, establish and maintain supportive relationships, and make responsible and caring decisions” (CASEL Staff 2022 para. 1).
- Student agency: students having voice and choice in the classroom (i.e., making decisions about their learning and their learning space).
- Student engagement: For the purpose of this paper, this is when students are attracted to their work, persist in their work despite challenges and obstacles, and take visible delight in accomplishing their work (Schlechty 1994).
- Student-centered practices: for the purpose of this study, when “students choose not only what to study but also how and why” leading to “learner responsibility and activity” (TEAL Center Staff 2010 para. 1).
- Suburban: for the purpose of this study, a school district/school in a town that is on the outskirts of a bigger urban city.
- Teacher-centered practices: instructional methods that put the teacher at the center of the learning and experiences; where students rely on the teacher for all information, instructions, and thus learning; instruction focused on teaching to the test.

What follows next is a review of the current and related literature on student-centered practices, PBL, and its relationship with social-emotional skills in the elementary classroom.

LITERATURE REVIEW

“Through [project-based learning], even our youngest learners can make a difference beyond their years” (Halvorsen et al. 2019 p. 62). Project-based learning (PBL) embodies many definitions, often compared to inquiry-based and problem-based learning. For the purpose of this review, PBL is defined 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” (Buck Institute for Education 2015 para. 3). Project-based learning is a student-centered instructional methodology, meaning students “choose not only what to study but also how and why” which allows for more “learner responsibility and activity” directly contrasting teacher-centered instructional methods (TEAL Center Staff 2010 para. 1). Similarly, social-emotional learning refers to the “process through which all young people and adults acquire and apply the knowledge, skills, and attitudes to develop” skills in the following five competencies: 1) self-awareness; 2) self-management; 3) social awareness; 4) responsible decision making; and 5) relationship skills (CASEL 2022 para. 1). SEL skill-building is necessary for student success, especially in K-12 classrooms, as explained by Jones et al. (2017):

...there’s a strong case for making such non-academic skills and competencies a central feature of schooling, both because of their intrinsic value to society and, from a pragmatic standpoint, because they may help to reduce achievement and behavior gaps and mitigate exposure to stress. (p. 50)

These non-academic skills refer to the SEL competencies listed above, and if incorporated into the daily learning of all students, have the potential to increase the success of students, both in their social-emotional wellness and academic achievement.

Knowing the potential that exists for both project-based learning and social-emotional learning, it is worth researching these topics further. This research centers on the potential impact of a social-emotional learning unit plan that focuses on self-awareness and social awareness in an elementary classroom and the learning opportunities that may arise as a result of the unit being taught through a PBL framework.

The purpose of this research extends beyond teacher-centered instructional methods, focusing on ways in which student-centered teaching methodologies like PBL allow for educational equity, more individualized, application-based learning, and thus higher levels of student achievement, student self-efficacy, and unstandardized public education. According to Halvorsen et al. (2019), “PBL is a powerful approach that has been proven to engage and foster development in young learners” and “...holds promise for narrowing the achievement gap” (p. 62). Kingston (2018) explained that “research shows that PBL *can* promote student learning and may be more effective than traditional instruction” (p. 2). While reviewing current literature on PBL-based instruction, multiple themes surfaced regarding PBL as a potential effective practice.

This literature review will begin with a brief summary of education policy in the United States and teacher-centered versus student-centered practices. The review will then funnel into the current literature pertaining to project-based learning (PBL), social-emotional learning (SEL), and then wrap up with a synthesis of the current literature connecting both PBL and SEL in the elementary school classroom.

Education Policies Contributing to Current Instructional Methods

The policies currently governing the United States K-12 public education system operate as a barrier to an equitable education for all students and have been doing so for decades. These policies make false promises of providing more educational opportunity for all students; their impact actively contributes to higher dropout rates and negative school experiences for the nation's most vulnerable student groups (McMurrey 2014). From the passing of the Elementary and Secondary Education Act (ESEA) in 1965 by former president Lyndon Johnson to the Race to the Top initiative in 2010 by former president Barack Obama, education policies vary in their titles but remain rooted in the standardization of every student and high-stakes testing, thus perpetuating inequities. The ESEA sought to establish federal funding for disadvantaged students to ensure their right to educational opportunity, which naturally encouraged school districts to rely on government funding for resources (Hightower et al. 2011; Onosko 2011). With multiple revisions since the 1965 adoption, No Child Left Behind (NCLB) was an update to the ESEA in 2002, which "significantly increased the federal role in holding schools responsible for the academic progress of all students" (Klein 2015 para. 7). If states did not comply with NCLB, they would risk losing their federal funding, as described in the initial ESEA. As a result of a potential loss of federal funds, many public school districts shifted to the adoption of a more standardized curriculum in order to accommodate for high-stakes testing, which are rooted in teacher-centered instructional practices (Hightower et al. 2011; Song et al. 2009). Sleeter and Stillman (2013) explained the danger of standardized curriculum and how it perpetuates teacher-centered practices:

Like a century ago, curriculum is being organized scientifically for efficiency, deriving learning objectives from social and economic needs and casting teachers

as managers of the process of producing student achievement scores....Rather than asking whose knowledge, language, and points of view are most worth teaching children, teachers and administrators...ask how well children are scoring on standardized measures of achievement. (p. 266)

Who is education for? What are schools for? Policies like NCLB are certainly not for students, nor the educators that teach them. Policies enacted under the assertion that high standardized test scores have a positive correlation with student achievement (and thus schools with higher test scores deserve increased federal funding) especially limit educators in their instructional methods due to the emphasis of teaching to the test. Teaching to the test “has led to the adoption of teacher-centered pedagogical strategies to meet the time and content demands of the tests” which adversely affects student motivation, engagement, and agency in their learning (Dole et al. 2016 p. 1). Yet is this not the purpose of education, to have students positively engage in, interact with, and become motivated by the knowledge there is to discover? Passman (2001) described a teacher’s experience after trying out student-centered practices in her classroom; when “faced with the pressure of high-stakes assessment,” she “turned away from discovery and inquiry that genuinely engaged her students toward a more teacher-directed classroom” (p. 196). If policies were intended to benefit students, they would not force educators to deny their students learning that engages them.

Even after NCLB was enacted, the detriment to students did not stop there. Obama’s Race to the Top (RTT) plan “narrowly focuses the educational goals and energies of school personnel on two learning outcomes,” reading and math (Onosko 2011 p. 6). Because of its emphasis on Common Core State Standards (CCSS), high-stakes testing, and using those scores as accountability for schools to compete for federal grants, educators struggle to take risks

outside of teacher-centered instruction for fear of not meeting adequate yearly progress. How can student-centered practices be considered effective practices if educators do not feel equipped or supported to do so? Onosko (2011) also argued that RTT “demonizes teachers, reduces the status of teaching as a profession, and ensures that many of our most talented and motivated young people” will not enter the field of education (p. 7). By deprofessionalizing teaching and putting subjects such as social-emotional learning, sciences, social studies, and the arts on the backburner, RTT is just a continuation of the standardization of education, perpetuating teacher-centered practices and educational inequity, essentially indirectly stating that the purpose of public education is for economic gain. It is time that the United States K-12 education system stops functioning as a business and starts operating toward what it continues to promise yet not fulfill; working in the best interest of the students it serves. When thinking about the classroom from the perspective of equitable opportunity for every student, it is important that the focus shifts from decades-old, teacher-centered practices to more constructivist, student-centered pedagogies. Both types of practices are discussed in the next section of this review.

Teacher-Centered Practices

According to Dole et al. (2016), teacher-centered practices are instructional methods in which the teacher is at the center of the learning experience, with students relying on the teacher for all of the information needed to complete an activity or engage in a learning experience. As referenced earlier in this review, these practices center around teaching to the test (Dole et al. 2016). Some studies express that traditional, teacher-centered approaches to learning are widely practiced because they are safe and comfortable for educators to implement and shifting pedagogical practices would require significant changes and effort for educators who already

fulfill so many roles (Dole et al. 2016; Passman 2001; Tyack and Tobin 1994). Educators feel the need to have structured control over students in order to assist with classroom management and organization, especially in the elementary classroom. Beyond this argument in favor of teacher-centered practices, there is little literature singing its praises. Schempp (1987) referenced Lortie's (1975) findings that "socialization into teaching begins while teachers are students," claiming that educators learned some of how to teach from watching their educators when they were students (p. 2). When educators teach using teacher-centered methods of instruction, this means those educators are using the same instructional strategies from decades ago to educate students of today, which is a disservice to current students in public schools. Freire (1970) explained that a teacher-centered learning environment "turns [students] into 'receptacles' to be 'filled' by the teacher" which assumes that every student is capable of being filled with knowledge in this way, often deemed as a one-size-fits-all approach to education (p. 72). The false notion that education can be done in one way to support all learners is a crisis for students everywhere and suggests that more research is needed on how school districts and policymakers can work to positively support educators in making student-centered instructional decisions rather than continuing to push teacher-centered methods. There is a need for moving away from these pedagogical methods toward practices that benefit the whole student. The whole student includes not only academic needs, but social and emotional needs as well. Current policies not only standardize learning for students, they also deprofessionalize teaching. A systemic change is needed to shift from doing what is safe, easy, and traditional to doing what is best for students, and also, what is best for educators.

Passman (2001) stated that "real school assumes that all children are the same, that school is democratic, providing everyone with an equal opportunity for learning...[which] could

not be further from reality” (p. 196). Passman (2001) recognized what is still true twenty years later; schools are becoming increasingly more diverse, as exhibited by the National Center for Education Statistics (NCES). According to NCES (2021), “about 31 percent of all public school students attended schools where minority students comprised at least 75 percent of the student population...[representing] an increase from the 27 percent” of that same group of students in 2009 (para. 2). Despite these statistics, educators are not diversifying as quickly, with the percentage of White educators in public elementary and secondary schools making up the majority consecutively from 2003-2016 (NCES 2019 para. 2). With student populations diversifying but teacher populations not as much, as well as policies in place that emphasize and encourage teacher-centered, traditional strategies, all students, but especially students of minoritized groups, are put at a disadvantage in their educational experience (Hightower et al. 2011).

Student-Centered Practices

A contrast to these traditional practices is student-centered practices, which for the purpose of this study, are defined as practices when “students choose not only what to study but also how and why” leading to “learner responsibility and activity” (TEAL Center Staff 2010 para. 1). These types of practices have also been discussed throughout the literature as learner-centered practices. The literature poses the argument that the relationship between the teacher and the student must shift toward one in which educators can also be students and students can be educators (Dole et al. 2016; Freire 1970). Embracing student-centered instruction would also require a shift in how student achievement is assessed because “high stakes tests...do not adequately reflect” the in-depth nature of student-centered practices, nor do they measure the

development of skills needed to navigate today's world (Dole et al. 2016 p. 2). Student-centered practices are not limited to one or two strategies, but rather work to define the way in which students learn within their classroom as a result of educators putting them at the center of the learning environment. Project-based learning and other student-centered teaching methods such as inquiry learning or problem-based learning are discussed in multiple studies as having a positive impact on student engagement, agency, social-emotional skills, thus positively impacting achievement (Deutscher et al. 2021; Duke et al. 2020; Kaldi et al. 2011; Krajcik et al. 2021). More importantly, one study found that through implementing a student-centered methodology in an elementary social studies classroom, "pre- to post-test gains" were made and there was a "statistically non-significant difference between low- and high-socio-economic classrooms" which contributes to the existing literature that student-centered practices are more equitable and beneficial for students than traditional, teacher-centered methods (Halvorsen et al. 2012 p. 26). Student-centered practices do require a shift in the ways educators engage with students and conduct themselves in the learning environment they create. Student-centered practices also alter the student and teacher relationship into a more democratic one, thus giving students more autonomy in their learning (Bremner 2021 p. 213). Though these practices differ from the way many active educators were taught decades ago, student-centered practices have the ability to create an equitable education experience that every student has a right to, one in which education policies should work to protect. This review will continue to synthesize the literature regarding one student-centered practice, project-based learning (PBL).

The Potential of Project-Based Learning

Throughout the current literature surrounding PBL, three significant themes emerged: the impact of PBL on student engagement, student agency, and the development of critical thinking skills. It is important to understand that there is potential in project-based learning for both students and educators as a result of the positive impact it has had on students, especially when considering ensuring equitable education experiences for all students. The following section synthesizes multiple studies in which the themes listed above surfaced.

Impact of Project-Based Learning on Student Engagement. Throughout the literature, there was a positive correlation between PBL practices and student engagement. Student engagement refers to students who are attracted to their work, persist in their work despite challenges and obstacles, and take visible delight in accomplishing their work, as defined by Schlechty (1994). Two separate studies showed an increase in student motivation and engagement in what they were learning in class when engaged in a PBL-structured environment (Duke et al. 2020; Kaldi et al. 2011). Kaldi et al. (2011) studied the effectiveness of PBL on elementary students during a science unit in terms of content knowledge and self-efficacy. This study included 70 fourth grade students from six classrooms within two towns in Greece, and classes were chosen based on educators who voluntarily wanted to engage in the study and educators who had experience teaching PBL in the classroom (Kaldi et al. 2011 p. 38). The research from the study found that “pupils scored significantly higher on the knowledge test administered after the completion of the project” and according to student interviews, students “found [PBL] amusing and more motivational in comparison to traditional teaching methods” (Kaldi et al. 2011 p. 43).

Similarly, Duke et al. (2020) conducted a randomized cluster study in which 48 educators were assigned either an experimental group or a comparison group to test the effectiveness of

PBL on second graders in social studies within schools serving mostly families who are living in poverty (p. 14). The experimental group of educators were given training, development and coaching throughout the year as they implemented PBL in their social studies curriculum, while the comparison group educators taught their regular social studies curriculum. The results of the study showed that the PBL curriculum used in this study “led to a 63% gain in social studies as compared to the comparison group” and a “23% gain in informational reading” (Duke et al. 2020 p. 29). Conversely to the study conducted by Kaldi et al. (2011), although student achievement was statistically significant in this study, student motivation provided mixed results. Duke et al. (2020) found student engagement did not directly increase significantly, but the more consistently PBL was implemented over time, “the more positive the associated change in students’ motivation at a level of statistical significance” (p. 33). This study also calls for further research regarding student motivation and PBL. Although there are mixed results regarding the direct impact of PBL on student engagement, it is necessary to conduct further research on primary students’ engagement levels with more student-centered approaches, due to the connection between engagement and achievement. It is also important to consider the effects of PBL on engagement over longer periods of time rather than just one unit or one content area.

Impact of Project-Based Learning on Student Agency. Most traditional instructional methods consist of teacher-centered pedagogy, expectant of students to listen and then complete work based on the information given by the teacher. In a case study conducted by Evans (2019) which looked at student outcomes as a result of a PBL-designed chemistry unit in a high school classroom, the study found that students were inspired to “work harder and produce better products because they had choice in the...product and...had an authentic audience with real-world connections” (p. 13). When giving students voice and choice in their work, students developed a

sense of ownership and agency in their learning which was motivating and engaging for students. Not only that, Evans (2019) also analyzed student achievement and found that 62% of students scored proficient or above on the performance task which asked students to directly apply their learning to a real-world situation (p. 15). This real-world application piece also helped to develop student agency; however, this was not natural to many of the students. According to the study, Evans (2019) also found that “students shared frustration with wanting more teacher direction and scaffolding during the project” (p. 16). It is important to consider this in future research, especially when implementing PBL in primary grades, because the difficulty of self-direction may or may not be an obstacle in the future if developed in earlier grade levels.

Similarly, Krajcik et al. (2021) conducted a study aimed to determine if PBL intervention improved elementary students’ science knowledge and social and emotional learning. One of the factors analyzed during this study was student ownership and the effect it had on student achievement within science classes. While there was a positive effect of PBL in the science classroom on reflection and collaboration, there was not a “significant effect on ownership” while engaging in this PBL-designed unit (Krajcik et al. 2021 p. 37). Despite not finding a substantial effect on student ownership though, Krajcik et al. (2021) found that self-reflection and collaboration through PBL practices supported students’ agency in science, especially “by females and urban schools where there are larger proportions of Black students” (p. 42). This is important to consider in order to understand ways in which PBL practices could support culturally responsive pedagogies. This study also found that on average, students in the treatment group classrooms (engaging in PBL practices) “performed 8 percentage points better on the science assessment” compared to the control groups (p. 31).

In addition to these studies, student agency and PBL emerged as a theme in the Duke et al. (2020) study referenced in the previous section. Duke et al. (2020) found that effective PBL instruction involved “considerable space for student-led experiences and collaboration and ensures that there is authentic purpose and resulting public product of students’ intellectual work” (pp. 29-30). Overall, both studies as well as the Duke et al. (2020) study show mixed results on the impact of PBL on student agency, yet also show higher levels of student achievement when engaged in PBL-designed learning experiences. Further research should attempt to find more evidence of a connection between PBL and student agency and its effectiveness in other content areas for elementary students.

Impact of Project-Based Learning on Student Critical Thinking Skills. Developing critical thinking and problem-solving skills are an important tool for students living in today’s world. According to the Buck Institute for Education (2015), in order for a PBL project to be considered “gold standard,” the project should be “focused on teaching students’ key knowledge and understanding...and success skills, including critical thinking/problem solving, collaboration, and self-management” (para. 1). For the purpose of this review, I have adopted Kettler’s (2016) definition of critical thinking, which he defined as “reflective thinking using principles of reason, logic, and evidence to analyze, evaluate, and construct consistent and coherent arguments, understandings, and judgements” (p. 124).

Condliffe et al. (2017) described in their literature review of PBL that within PBL practices, “projects are used to teach literacy and math skills, critical thinking, collaboration, and problem-solving” (p. 19). As explored in earlier studies in this review, within the themes of student agency and student engagement is the development of higher-level cognitive skills. In order for a unit or project to be considered PBL, Condliffe et al. (2017) explained that “a central

goal of PBL is to facilitate the deeper learning process and support students' acquisition of 21st century skills" which includes "rigorous content knowledge and critical thinking skills" (p. 36).

This is not unique to students identified as gifted or in accelerated programs; the problem-solving skills that are emphasized in PBL units are important and necessary skills for *all* learners.

Condliffe et al. (2017) proposed more defined, standard design principles for PBL are necessary in order to truly understand the effectiveness of PBL.

Conversely, research conducted by Deutscher et al. (2021) focused on how educators as co-designers of PBL units in science influenced student achievement and engagement (p. 6). The study found that compared to students in the control group, the PBL science curriculum led to "gains in student engagement, science learning outcomes, and on standardized proficiency...assessments" in multiple subject areas (p. 24). Not only do these results propose that PBL increases student engagement, they also showed benefits for English-Language Learners related to critical thinking skills. Deutscher et al. (2021) explained that "statistically significant results for English learners reinforce the potential for PBL curricula...to support more equitable access for historically underserved students to rigorous learning" (p. 24). The ability of PBL to positively impact and reach historically underserved student populations again supports the potential of PBL on the development of higher-order thinking skills for all learners and connects engagement with critical thinking and problem-solving. It is important to consider the overlap of all of these themes.

As referenced earlier, Kaldi et al. (2011) found in their study that as a result of PBL practices, "...pupils learned and strengthened their work habits, their critical thinking skills and their productivity" (p. 36). Teaching these skills in the primary grades may develop more critical thinking skills in students early on, thus potentially increasing their achievement and self-

efficacy as they continue their schooling. As expressed in all of this research, it is important to note that PBL allows for the opportunity for all students to engage in authentic problem-solving to develop critical thinking skills.

Despite the compelling evidence of the potential of PBL on all students however, these studies call for more research on the impact of PBL on math and literacy achievement in the elementary classroom, the relationship between PBL and social-emotional learning, and the intersection of PBL and culturally responsive pedagogy. Additionally, these studies also acknowledge the need for the development of a common definition and set of principles for PBL design, as well as widely accessible professional development, coaching and training opportunities for educators to engage in this work. The next section discusses common challenges with the implementation of PBL.

Challenges of Project-Based Learning

While the impact of project-based learning is evident in current literature, there are three challenges of PBL that came up in the literature that would likely affect its implementation. One such challenge is the inadequate amount of educator plan time given to effectively implement a unit that is project-based (Aksela and Haatainen 2019). PBL involves more preparation time for educators in order to then shift the ownership of learning over to students as PBL is implemented. This leads to another challenge noted, which is “teacher resistance to student-directed instruction” as noted by Mentzer et al. (2017). Because PBL puts educators in a facilitator role, it can be challenging to shift from what many educators may have learned in their preparation programs that emphasize the teacher as the one in complete control of instruction. This discomfort with giving students more control in their learning suggests that adequate professional development is needed in order for PBL to be administered effectively and for

educators to feel more prepared to implement it in their classrooms. In addition, Allensworth et al. (2018) pointed out that

Introducing more challenging work without sufficient supports or attention to students' emotions and learning strategies...can lead to student frustration, withdrawal, and disruption. ...thus, teachers can be hesitant to change practices, for fear that students will disengage. Or, they revert to more traditional ways of teaching when unable to get students to do the more challenging work. (p. 11)

While PBL would be a substantial investment for student learning outcomes, it would take time to properly train educators in PBL as an instructional methodology and to get educators to feel confident in their ability to enact PBL successfully. Lastly, in an extensive literature review on PBL research, Thomas (2000) noted that challenges within PBL implementation included challenges with planning learning experiences in the classroom and assessments, as well as some classroom management concerns when teachers were not entirely experienced in implementing a project-based unit. All of these challenges suggest that effective project-based learning implementation in schools will rely on whether or not teachers are able to be adequately trained and given adequate time to plan and prepare for this type of instruction. It is important to note that despite these challenges, each of these sources expressed that both teachers and researchers recognize and value the benefits that PBL has on student engagement, achievement, and in some cases, the minimization of disruptive behaviors during class (Aksela and Haatainen 2019; Condliffe et al. 2017; Mentzer et al. 2017; Thomas 2000). Despite these challenges however, these obstacles do not negate the importance of student-centered practices as effective practices for students in K-12 classrooms.

The Potential of Social-Emotional Learning

Social-emotional learning (SEL) refers to “the process through which all young people and adults acquire and apply the knowledge, skills, and attitudes to develop healthy identities, manage emotions and achieve personal and collective goals, feel and show empathy for others, establish and maintain supportive relationships, and make responsible and caring decisions” (CASEL Staff 2022 para. 1). This section serves as a brief introduction to current literature pertaining to research of social-emotional learning in the classroom. Topics discussed in this section include (a) The Potential of SEL which includes its impact on student learning and development and possible connections between SEL and culturally responsive teaching practices, and (b) Challenges and Critiques of SEL.

Positive Impact of SEL on Student Learning and Development. While decades ago, mental health was not a prominent area of discussion in literature surrounding education and public health issues, the Institute of Medicine report (2009), as summarized by Durlak et al. (2011) “indicated that the promotion of competence, self-esteem, mastery, and social inclusion can serve as a foundation for optimal child development and school performance” (p. 420). Eleven years later, mental health continues to be a prominent public health issue, and more schools continue to adopt social-emotional learning (SEL) curriculum to assist students with social and emotional skill development. SEL is:

the process through which all young people and adults acquire and apply the knowledge, skills, and attitudes to develop healthy identities, manage emotions and achieve personal and collective goals, feel and show empathy for others, establish and maintain supportive relationships, and make responsible and caring decisions. (CASEL Staff, 2022, para. 1)

Social-emotional learning can be organized into the following competencies: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making (Greenberg et al. 2017 pp. 14-15). Jones et al. (2017) categorized SEL into a framework of three competencies, including cognitive regulation, emotional processes, and social and interpersonal skills in order to make sense of the evidence of SEL. Current research has shown that SEL skills and academic achievement, as well as positive social interactions, have a positive correlation, which is promising for continuing to implement and research SEL in K-12 schools (Bridgeland et al. 2013; Durlak et al. 2011; Jones et al. 2017). Understanding that learning and SEL are interconnected sets the foundation for future research. It is crucial to continue to find evidence of the potential of SEL being actively practiced in schools, and there is a need for more research surrounding SEL as an interdisciplinary practice, rather than as an isolated subject.

SEL and Equity in Education. In addition to SEL's positive impact on students' learning and development, current literature suggests that there is a possible connection between SEL and culturally responsive teaching, as well as equitable education for all students. Gregory et al. (2017) postulated that by both state and federal policy working to reform discipline in schools, they are making room for SEL to be implemented in schools, which creates the potential for a healthier school environment for students and educators (p. 132). Similarly, Fitzgerald (2020) stated that "teachers believe that SEL skills are teachable and that SEL instruction benefits students from a variety of backgrounds" (p. 575). This is important to consider when thinking through a lens of equity and culturally responsive teaching because the literature shows that SEL is a necessary subject for student learning, not only to work well in the classroom, but outside of it too. Greenberg et al. (2017) explained that due to current societal shifts such as more multicultural communities and classrooms, access to information, and the need for

effectively communicating with others outside of the school environment, there is a “call for a new emphasis on learning how to manage stress, get along with others, and work in groups...we need a broader perspective for education in which success means more than just academic achievement” (p. 16). Another study which focused on the relationship between collaboration and students’ experiences through the lenses of learning personalization and equity found that “for all students, high-quality collaboration was strongly and positively associated with students’ perceptions of the classroom environment and with their mind-sets and dispositions, including engagement, intrinsic motivation, and self-efficacy” (Surr et al. 2018 p. 55).

Challenges and Critiques of SEL

SEL does have its advantages in the areas of student achievement, social-emotional development, and assistance in helping students develop and apply skills to navigate today’s world. In recent years however, SEL has become increasingly politicized and continues to lie under skepticism from both politicians and parents of K-12 students. Tyner (2021) expressed interesting findings in relation to SEL and parent opinion in relationship to political affiliation, noting that “across the political spectrum, parents regard families as the most important entities for cultivating SEL, yet there are partisan differences regarding how and where to emphasize SEL instruction” (p. 2). This could be problematic though, as a lack of agreement on where SEL skills have a place could mean that some schools implement SEL and some do not. If not all students are given access to instruction in SEL skills and opportunities to develop SEL skills, this may further inequities due to political perspectives on SEL. Additionally, Tyner (2021) found that “differences by parents’ race, class, and religion [were] rarely as pronounced as differences by political affiliation,” which shows that SEL is a polarized issue which can create challenges

for schools to receive support and/or resources for implementing SEL instruction in schools, as well as leave room for critique and pushback on schools that already have SEL instruction and interventions in place. The political climate of SEL causes challenges both for schools considering or already implementing SEL instruction due to its polarization and the lack of understanding among families and political parties in regard to the purpose of SEL and its place in the education of K-12 students, if it has one at all.

An additional challenge to SEL instruction is that while SEL has the potential to be culturally responsive, without considering cultural and socio-political contexts, SEL can do more harm than good, especially for BIPOC (Black, Indigenous, People of Color) students (Drake and Oglesby 2020). Although CASEL outlines five competencies for types of SEL skills, there is no mention of how cultural differences could contribute to *how* these competencies may be exhibited by students; thus, there seems to be a lack of consideration of cultural responsiveness when designing SEL instruction. Simmons (2019) explained that “to be effective, equity-centered educators, we cannot be emotionally intelligent without being culturally responsive.” All students deserve access to quality SEL instruction which includes making sure that SEL instruction is responsive and accessible to *all* students, especially BIPOC students as they continue to be underserved student populations. SEL is attributed with helping students develop 21st century skills, skills that employers value; however, “if we laud SEL for how it supports youth with career, business and economic success, we must also reckon with our blind obsession with capitalism and its relationship with the white supremacy on which it was built” (Simmons 2021 p. 32). That is why it is necessary to ensure that SEL instruction is considered alongside culturally responsive teaching. Without considering the norms and values of student bodies in K-12 schools in relation to self-awareness, social awareness, self-management, responsible decision

making, and relationship building, SEL “faces the risk of becoming white supremacy with a hug” (Simmons, 2021, p. 30). It is important to keep the importance of cultural humility at the forefront of conversations surrounding SEL instruction and implementation in order to combat the poison that is white supremacy and to help all students not just think, but *know* that they belong in the schools they are a part of.

Project-Based Learning and Social-Emotional Learning

After synthesizing the current literature for project-based learning and social-emotional learning in isolation, this section amalgamates those ideas with current research describing the interconnectedness of PBL and SEL and how they both work to enhance student engagement, learning opportunities, and keep students at the center of the learning. Immordino-Yang et al. (2018) explained that “learning environments that are structured to be consistent with how the brain develops generally include these features: they place the learner’s emotional and social experience at the forefront, they support age-appropriate exploration and discovery, they support flexible and efficient thinking, they help students acquire habits of mind and character” (p. 14). PBL allows for emotional and social experiences, learner discovery in appropriate ways, flexible thinking, and student engagement in collaborative experiences; as a result of this, there is potential in student learning opportunities when integrating PBL and SEL.

Multiple studies suggest that integrating a PBL curriculum/approach in the classroom with SEL allows for the deeper development of SEL skills, as well as potentially increase student achievement, engagement and motivation (Dresden 2018; Fitzgerald 2020; Kaldi et al. 2011). Kaldi et al. (2011) found that when primary students engaged in a PBL science curriculum, not only did they exhibit an increase in academic performance, but they also developed more self-

efficacy, positive attitudes towards the learning process, and found group work to be enjoyable and important. Another finding from this study included that educators viewed PBL “as positive and they valued its importance to pupils’ active engagement in learning” (Kaldi et al. 2011 p. 45). In a survey conducted by Bridgeland et al. (2013) surrounding SEL, 87% of educators indicated that they believe SEL will assist students in navigating the real world, and 95% of educators believe that SEL skills are teachable. By studying the impact of PBL (a student-centered practice) and SEL—both practices that educators believe are necessary to implement in the classroom—evidence could provide educators, administrators, interested parties, and policy makers with the information needed to view student-centered practices *and* SEL as necessary effective practices for all students. Similar to Kaldi et al. (2011), Dresden (2018) advocated for the integration of PBL and SEL because in order for project-based learning to be successful, SEL skills have to be incorporated with it as there is a lot of collaboration, communication, and intrinsic motivation in PBL projects. Fitzgerald (2020) looked at PBL through the lens of SEL and literacy, in which findings showed the “PBL curriculum...created integrated opportunities for disciplinary, literacy, and social-emotional learning” (p. 596). Fitzgerald (2020) also found an increase in student engagement and more opportunities for learning. With this in mind, what then, would the impact be if PBL was intentionally integrated with SEL in a variety of disciplines in the elementary classroom? Perhaps the most important takeaway to consider from Fitzgerald’s (2020) research is that further research in instructional methodologies “can support curriculum designers to engineer opportunities to learn that are different from those typically offered in K-12 classrooms” and assist educators “in managing the complexity of maximizing students’ opportunities to learn in today’s diverse classroom settings” (p. 598). Fitzgerald’s assertions that further research has the potential to benefit both students and educators provides a

strong foundation for future research, addressing multiple challenges affecting education, such as equitable opportunities and educational access, student mental health and behaviors, and helping students develop worldly skills in the classroom.

Other studies, while not referencing PBL practices directly, express the natural connection of learning as being academic *and* social and emotional, thus the integration of academics and SEL is practically inevitable in the classroom with or without an integrated curriculum in place (Durlak et al. 2011; Jones and Kahn 2017; Kress et al. 2004; Weissberg et al. 2004; Weissberg and Cascarino 2013). It is worth researching what the impact of integrated PBL and SEL intentionally could have on student achievement, learning opportunities, and SEL skill development and application.

Summary

Public education continues to educate students the way that students have always been taught, despite evidence that traditional, teacher-centered approaches are not the most effective for meeting the needs of students and increasing student achievement (Kaldi et al. 2011). The “education reform movement” is “shifting toward an emphasis on deeper learning and other 21st century competencies” which “aligns well with the goals of PBL,” thus making it a possible effective practice to support all learners in meaningful and equitable ways (Condliffe et al. 2017 p. 55). Though there are mixed results when looking at PBL’s impact on student agency in the elementary classroom, there is a clear connection between PBL and student achievement when looking at its impact on student engagement and critical thinking skills (Deutscher et al. 2021; Duke et al. 2020; Kaldi et al. 2011; Krajcik et al. 2021). There is also a clear connection between

student-centered approaches like PBL and SEL, an important and necessary facet in all K-12 classrooms (Dresden 2018; Fitzgerald 2020; Kaldi et al. 2011).

SEL is necessary to continue to research and implement in K-12 schools because of its connection with student learning, assistance in developing skills to navigate the world outside of school, and the potential it has for working towards a more liberatory education system for all students. The latter will require integrating culturally responsive teaching practices within SEL and PBL and informing and training educators in these practices as well. With this in mind, the current literature for both social-emotional learning and project-based learning suggest that integrating PBL and SEL could enhance learning opportunities for students both academically and socially, allow for a more democratic relationship to develop between the teacher and student, and essentially meet all students where they are in their learning experiences by mitigating inequities.

Even with the current evidence of the impact of PBL curriculum on SEL skill competencies as exhibited by the studies referenced in this review, there still remains a call for more research on the impact of student-centered practices, such as project-based learning, on the development of social-emotional skills and student achievement, engagement, and learning opportunities. There is also a need for more research analyzing ways in which current teacher-centered practices and SEL programs perpetuate inequities, and how shifting from teacher-centered to student-centered practices as well as embedding more culturally responsive strategies into SEL programs could allow for more equitable education experiences for all students.

“What matters is not what we teach; it’s what they learn, and the probability of real learning is far higher when the students have a lot to say about both the content and the process” (Kohn 2010 p. 6). Looking at and PBL and SEL together is significant not only because of their

proven potential to support student achievement in a variety of ways, but also in their ability to meet the needs of *all* learners and assist them in developing connections between disciplines and increase skill competencies like self-management, social awareness, and decision making. This requires educators giving students an active voice in their learning spaces, and thus, their learning processes. As Halvorsen et al. (2019) explained, “our students are capable of doing authentic work that adds to the abundance [of] ways that can make the world a better, richer place” and it is the job of educators, administrators, policymakers, and community members to advocate for effective practices that will ensure students’ success both in and beyond the classroom (p. 29). The next chapter of this paper will go on to explain the research methodology that was used in this study.

METHODOLOGY

The purpose of this study is to examine the nature of students' social-emotional learning over the course of a project-based learning unit in an elementary classroom. Presented in this chapter of the methodology are (a) research design, (b) site of the study, (c) participants, (d) ethical considerations, (e) instrumentation and data collection, and (f) the role of the researcher.

Research Design

The present study was conducted as a qualitative instrumental case study (Creswell 2013). This study received International Review Board (IRB) approval under study number IRB-FY2022-180 on October 5th, 2022 (see Appendix B). This study attempted to determine the nature of students' social-emotional learning development over the course of a project-based learning unit in an elementary classroom. The five CASEL competencies, (1) self-management, (2) self-awareness, (3) responsible decision making, (4) relationship skills, and (5) social awareness, served as the basis for categorizing what skills students learned about and developed during the study (CASEL Staff 2021). This study focuses specifically on self-awareness and social awareness. The qualitative approach allows for a closeness between the researcher and the participants which "helps to provide deep and rich data" (Mills and Gay 2019 p. 65). Qualitative research is also more open-ended, which when working with PBL and SEL, is helpful in that it allows for a level of responsiveness to the research that is not always present in other methods of research (Mills and Gay 2019 p. 65). Because PBL and SEL are both phenomena being researched in this study, a qualitative design established deeper levels of understanding of their potential relationship, related to the research questions of the study.

To explore the research questions, I developed an instrumental case study design to discover the nature of students' SEL skill development related to two of the five competencies (self-awareness and social awareness) when taught through a teacher-created, project-based curriculum. This instrumental case study centered on one third grade class in a K-5 elementary school, located in the Midwestern United States. To ensure the privacy of the school, the pseudonym Rosedale Elementary School is used. The case study research design is beneficial for this study because as Mills and Gay (2019) stated, "it is more concrete" and it "relate[s] to the readers' knowledge, experience, and understandings" as they compare it to their own experiences (p. 404). Dyson (1995 as cited in Fitzgerald 2020 p. 581) also expressed that case studies illuminate "dimensions and dynamics of classroom living and learning" which potentially allows readers to envision a setting they may be accustomed to from new perspectives (Fitzgerald 2020 p. 581). A case study involving PBL and SEL has the ability to examine the relationship between a PBL instructional method and the development of social-emotional skills more closely than other studies due to its comparative nature. Not only that, when looking at broader education reform, a case study could potentially lead to a deeper analysis of current teacher-centered methodologies and discover ways in which student-centered instructional methods can disrupt standardized, inequitable, educational experiences for students.

Site of the Study

This study took place in one third grade classroom in a school district located in an affluent suburb in the state of Missouri. The city population as of 2019, according to the National Center for Education Statistics (NCES) (2019), is 41,515 people, with 90% identifying as White, 4% identifying as Black, 2% identifying as Hispanic or Latino, 2% identifying as Asian, and 2%

identifying as two or more races. 3.2% of families enrolled in the district receive an income below the poverty level.

Participants

The participants of this study are all in the same third-grade class. The students range between eight and nine years old. The class contained twenty-one students. Twelve of the students are boys, and nine of the students are girls. Students are predominantly White with less than 5% racial/ethnic diversity. Most students come from average to high-income families residing in middle- to high-class neighborhoods within walking distance from the school. 10% of the student population at this school qualify for free and reduced lunch prices. The class was comprised of a wide range of learners, including those receiving intervention services, including IEPs, accelerated and gifted programs, and English language development.

Ethical Considerations

Permission to conduct this study was obtained from the building principal (see Appendix A). Application was created and secured from the International Review Board at Missouri State University (see Appendix B). Consent forms were sent home with each student prior to the study to inform and request permission from a parent/guardian to include their student in the study; however, families could choose if they wanted their child to participate (see Appendix C). If a parent/guardian did not consent to their student being a participant, their student was not included in the study, and there were no consequences nor exclusion from learning for not participating. Students were given another consent form if the original was lost or misplaced.

In order to maintain confidentiality, questionnaires were given out and did not ask for student names, nor did the teacher walk around and observe students as they completed them each week. Pseudonyms were used throughout the research report when discussing interviews and observations, and once data were collected and analyzed/recorded, they will be kept for at least three years in a secure location before any data are disposed of. While these data were being collected and analyzed, they were stored in a locked drawer in a closet designated only for the teacher-researcher. Only the teacher-researcher had access to this drawer. This is to prevent any identifying information from the students to be found and/or used. Only the researcher viewed any data, and student privacy and confidentiality were a priority throughout the study.

Context of the Study

Project-Based Learning Unit Plan for Social-Emotional Learning: The unit that was enacted is a PBL unit I, the researcher, generated and utilized to teach social-emotional learning standards related to the competencies of self-awareness and social awareness in this study (see Table 1). The unit lasted for eight weeks and covered the following SEL learning standards: 1) recognize one’s own emotions, thoughts, and values and how they influence your behavior; 2) take the perspective of and empathize with others, including those from diverse backgrounds and cultures (see Table 1). The PBL unit was designed using the Project Design Rubric and Design Elements Checklist, adopted from Buck Institute for Education (2019) (see Appendix D).

Table 1. Summary of unit plan and data sources collected

Week	Lessons/Topics Covered	Data Sources Collected
1 (February 7th-11th, 2022)	What problems do we notice in our school community? What is a driving question?	-Recorded lesson(s) -videos/voice memos -Class artifacts

		-Student weekly reflection -Teacher weekly reflection
2 (February 14th-18th, 2022)	Defining the Terms of Our Driving Question	-Recorded lesson(s) videos/voice memos -Class artifacts -Student weekly reflection -Teacher weekly reflection
3 (February 22nd-25th, 2022)	How can identifying personality traits help us better understand ourselves? Others?	-Recorded lesson(s) videos/voice memos -Class artifacts -Student and teacher weekly reflection
4 (February 28th-March 4th, 2022)	What do we each bring to the world?	-Recorded lesson(s) videos/voice memos -Class artifacts -Student and teacher weekly reflection
5 (March 7th-11th, 2022)	How Can We Disagree Appropriately and Respectfully?	-Recorded lesson(s) videos/voice memos -Class artifacts -Student weekly reflection -Teacher weekly reflection -Disagreeing appropriately response page
6 (March 14th-18th, 2022)	Group Project Check Ins, Setting Goals for Time Management, Revisiting the Driving Question	-Recorded lesson(s) videos/voice memos -Class artifacts -Student weekly reflection -Teacher weekly reflection

Table 1 continued

Week	Lessons/Topics Covered	Data Sources Collected
7 (March 29th-April 1st, 2022)	Work week, no new lessons, meet with project groups and assist as needed	-Voice memos of student conversations -Class artifacts -Student weekly reflection -Teacher weekly reflection
8 (April 4th-April 8th, 2022)	How can we present our projects? What do expert presenters do and who is our audience?	-Recorded lesson(s) videos/voice memos -Class artifacts -Student and teacher weekly reflection -Team reflection form -Student presentation videos/artifacts

Data Collection

Data sources collected in this study included (a) student weekly reflections, (b) teacher-researcher weekly reflections and observation notes, (c) student and class created artifacts including student final projects, and (d) video and voice memo recordings of lessons and student conversations during the unit.

Recorded Video Lessons and Voice Memos, Observations, and Teacher-Researcher Reflections: In this study, I observed as a complete participant, defined by Creswell (2013) as being “fully engaged with the people [I’m] observing” (p. 166). All unit lessons were video recorded and observed throughout the duration of the unit. In some instances, voice memo recordings were used for lessons and discussions instead of video recordings. The purpose of recording the lessons is due to the fact that as a complete participant, it gave me a chance to

reflect on what took place during lessons and evaluate my teaching, as well as observe how students interacted with SEL through a PBL unit. I took detailed reflection notes while observing the recorded lessons in weekly reflections, as well as referenced my own observations while teaching. These reflection notes were written following an observational protocol, discussed by Creswell (2013) as containing a “descriptive notes” section and a “reflective notes” section; descriptive notes include a summary of the activity or lesson observed while the reflective notes include processes, reflections and wonderings, and possible conclusions to be revisited later (p. 169). By recording each of the lessons taught, recording voice memos for discussions and small group conversations, observing students and myself during the lessons and activities, and taking reflective and descriptive observation notes, I was able to dissect findings related to the ways in which students learned SEL skills through a PBL curriculum, and also the ways in which teaching SEL through a PBL unit may be effective in providing opportunities for self-awareness and social awareness.

Artifacts: Student and class-created artifacts were collected, including anchor charts or materials created during instruction, questions or ideas posed by students, and records of student ideas and thoughts during discussions (see Appendix E). I also collected artifacts created by students, such as presentations, reflections, and group or individual work generated throughout the study. These artifacts allowed me to examine the effectiveness of the PBL curriculum in relation to SEL skills, and also provided me with data to connect the curriculum and the happenings in the classroom through a PBL instructional method.

Weekly Student Reflections: Students answered a weekly reflection question (see Appendix F) after each week of the study related to the social-emotional competencies discussed previously. These reflections were completed at the end of each week and served as student

artifacts; they were utilized as a way for me to view student progress of their social-emotional skill development *during* their time learning through the project-based learning unit. These reflections were turned into me and were evaluated and analyzed for areas of growth and themes related to the research question. These reflections allowed me to not only see potential student progress, but they also served as student artifacts that incorporated student voices in their learning throughout the study.

Data Analysis

I analyzed the data through multiple steps, including organizing the data, coding the data and then condensing the codes into themes, and then representing the data (Creswell 2013 p. 180). These strategies allowed me to see data in both detailed and broad ways, and thus led to uncovering patterns within the data. Coding is best for analyzing the data sources that I used in this study. Charmaz (2001), as cited by Saldaña (2016) “describes coding as the ‘critical link’ between data collection and their explanation of meaning,” thus allowing me to engage more deeply in the analysis processes (p. 4). Coding and recoding my data allowed me to find patterns, which built “more trustworthy evidence for [my] findings” and led to “the development of categories” which provided me with a better foundation from which relationships within the data can be discussed.

When coding the data, I transcribed all video lessons and voice memos recorded throughout the study in order to prepare these data sources for analysis and coding. Once these were transcribed, I then read the transcripts first line by line, and then used descriptive coding, as recoding data sources “further manages, filters, highlights, and focuses” the story of the data, allowing for the generation of “categories, themes, and concepts, grasping meaning, and/or

building theory” (Saldaña 2016 p. 9). I read the teacher-researcher reflections, observation notes, student reflections, and most artifacts using both line-by-line and descriptive coding as well. Using the same coding methods helped me to identify comparable patterns and relationships across the data sources, allowing me to consolidate meaning to discern the most emergent themes shown (Saldaña 2016). Most artifacts were coded descriptively due to the nature of the artifacts themselves (i.e., posters, powerpoint presentations, anchor charts, etc.). I coded each of these data sources in response to my research questions, using the CASEL capacities within the competencies of self-awareness and social awareness (see Appendix G) (CASEL 2022). After multiple rounds of coding line by line and descriptively, I examined all of the codes to identify patterns and establish categories in relation to the look-fors related to both of my research questions (see Appendix G). For example, when thinking about integrating personal and social identity, codes for these included “self-discovery,” “identifying roles,” “reflection of self,” and “observation of self traits.” Throughout my codification across all data sources, I first focused on general evidence of self-awareness and social awareness. This included line-by-line codes such as “others,” “relationships,” “self,” “reflection,” “collective,” and “individual,” and descriptive codes such as “reflection of self,” “working collaboratively,” “sense of collectivism,” and “expressing feelings about self/others” to name some examples. I then coded the data again with a more specific focus on evidence of self and social awareness using the CASEL capacities for each of those SEL competencies, interpreting phrases, words, and ideas in the data and creating codes that connected to those look-fors. Examples of these codes are listed in Appendix G. I first examined patterns within singular data sources, then triangulated across all data sources to identify emergent themes and subthemes that were relevant to one or both research questions. Themes were determined throughout the triangulation of the data sources based on the patterns

identified; these themes were separated by research questions to look more in-depth at the two SEL competencies highlighted in this study, self-awareness and social awareness.

Role and Position of the Researcher

For the duration of this study, I acted as a complete participant because I was both the researcher and teacher of the third-grade class in this study. My experiences as a young female, elementary educator, graduate student, and advocate for student-centered learning influenced my research questions, my interpretations and analysis of data, and the perspectives I shed light on in this study. My research interests in teaching the whole child, project-based learning, social-emotional learning, and the unstandardization of education through policy reform also influenced the ideas and perspectives I brought to this study. I addressed these biases by looking for data that might disconfirm the ways in which the PBL unit enacted and the resulting learning that occurred in my classroom throughout this study (Creswell 2013).

Trustworthiness

To ensure trustworthiness in this study, I triangulated my sources in order to find corroborating evidence in the data I collected (Creswell 2013). This allowed me to analyze all of my data sources and develop a more informed perspective, which Creswell (2013) notes will “provide validity to [my] findings” (p. 251). I also worked with a committee to provide feedback and insight throughout the study. Lastly, I consistently revised my hypotheses as I continued to analyze and draw conclusions about my findings, some of which proved to be “negative or disconfirming evidence” to the initial hypotheses (Creswell 2013 p. 251). I am also both the teacher and the researcher in this study, and I am also actively involved in the field of education;

therefore, I was able to build stronger rapport with my participants in the study and this also ensures the relevance of my research question to the field.

The next section contains the analysis of the data collected and a discussion of the results from the study.

FINDINGS

The purpose of this qualitative study was to conduct research on possible opportunities for the development of (a) student self-awareness and (b) student social awareness when engaging in a social-emotional learning (SEL) unit taught through a project-based learning (PBL) framework. The themes that emerged within self-awareness include the following: (a) Discovering Ideas About the Self in which students reflected on strengths, assets, or introspective realizations; (b) Identifying Feelings and Emotions, and (c) Building Self-Empowerment which includes self-efficacy, self-confidence and developing a sense of purpose. Within social awareness, themes include the following: (a) Recognizing the Perspectives of Others and (b) Considering Feelings and Experiences of Others, which includes demonstrating empathy and showing concern for the feelings of others. Also presented in this chapter of the findings of the study is the summary.

Social-Emotional Learning, PBL, and Self-Awareness

Discovering Ideas of Self. Berg et al. (2017) defined self-knowledge as presenting “an awareness or knowledge component” to understanding oneself; this includes an understanding of “one’s personality, strengths, and weaknesses” (p. 58, p. 161). While the CASEL capacities for self-awareness do include a factor on identity, there is no working definition that clearly defines self-identity; however, with self-identity presenting itself as an emergent theme in the data for this study, it is important to align self-identity with a clear definition, in which Berg et al. (2017) most clearly and closely aligned with the findings appearing in the emergent patterns in this study related to self-identity. When students refer to themselves using “I” statements, describe

traits they attribute to define themselves as individuals, identify strengths or limitations of themselves, or express learning something about themselves, these are examples of self-identity. Analysis of multiple data sources exhibited that the project-based learning (PBL) framework of the social-emotional learning (SEL) unit taught did allow for opportunities for students to develop a stronger sense of self-identity, thus providing opportunities for students to engage in one of the capacities of self-awareness, as outlined by CASEL (2022). Through weekly student reflections, students were asked to reflect on their project, thoughts, feelings, and emotions they were experiencing during SEL time each week, and anything else they felt necessary to share. Students were given time at the end of each week of the 8-week study to reflect on their experiences, which led to self-discovery through awareness of strengths, limitations, and identity as an individual and as a part of the collective. Student R wrote that “I’ve learned that I don’t work well in groups,” which shows their preference for how they may work more productively after beginning to work on their project with other peers (Reflection 5 2022). Student B wrote “I learned that I work better with one person than with more than one person. I also learned that if I really focus I can get a lot more done than I think,” revealing that 1) this student was recognizing their strengths and their potential and 2) this student was discovering their preference for a working environment (Reflection 2 2022). Similarly, Student L reflected that they learned they “like to be in a small group not a big group and not to be alone in a group” (Reflection 5 2022). Each of these students reflected on their identities in relation to the types of environments they felt would work best for them. This may be a result of their engagement in the SEL unit and how they saw themselves within their groups, developing personal preferences for how they felt they could be most productive or hindered in a working environment. Student E reflected that “I need to speak up and disagree in a nice way. I learned that no one agrees and sometimes it leads to

problems. I learned that some people get everything they want” (Reflection 4 2022). This reflection reveals that this student recognized their struggle with speaking up, and that as a result of not speaking up, their ideas were not being considered and thus it seemed as though others were getting their way every time. Similarly, Student F reflected that “something I learned about myself is if I have an idea I want it heard and feel unnoticed when I can’t say my ideas,” recognizing that they had contributions to share and appreciated when they felt heard by others (Reflection 3 2022). Each of these students expressed learnings about themselves and their preferences, as well as identified traits that they recognized in themselves through their weekly reflections as a result of engaging in the SEL unit.

Identifying Strengths and Limitations of Self in Student Weekly Reflections. Another facet of self-identity that the data exhibited was student identification of their own strengths and limitations. Student N noted in a reflection that “I’m better at explaining to people what I’m doing than writing or drawing” as a result of their experience when explaining their ideas to their group members (Reflection 6 2022). This student self-identified that they thrived when they could use their voice to express and clarify an idea, rather than express themselves through written or visual methods. Student C expressed a strength they discovered, sharing “I can do anything with my brain. If we put three brains together we can do more” (Reflection 5 2022). This student not only reflected on an aspect of their own identity, but also on how that piece of their identity fit into their group project in relation to brainstorming ideas together. Student D expressed recognizing that they were taking on too much of the project, stating, “I think that I need to not take over everything and that [my group members] can help me think” (Reflection 5 2022). This student not only recognized that they were taking too much control of the project, but also observed that they still had a role to play within the group, thus integrating their self and

social identities. Student G reflected on traits they attributed to themselves, stating “I have great ideas. I help a lot” (Reflection 5 2022). Student D noted that “no one has to agree with me to work with me” which was an interesting yet positive statement (Reflection 4 2022). This student realized that they can disagree with others and still work together, and that others can disagree with them too, without disrupting collaboration. This student’s integration of self-identity and social identity (who they are and who they are with others) is evidence of self-awareness through developing their own identity. Finally, Student L expressed self-discovery while also discovering that others are similar to them:

I over think my work and that makes it take longer for me to finish my work. But I learned that other people also over think their work and that makes me feel good about myself. Even though I work slowly it’s good to know that other people do too. (Reflection 1 2022)

This student’s expression of their tendency to overthink has not always been a strength in their mind, but by identifying this as a trait about themselves and seeing it in relation to others who also share this trait, they both gained a sense of self-identity and also integrated that with how they identify with others. Through time to reflect each week after engaging in the SEL unit and their projects, students were provided with opportunities to express their learning about their own identity. This designated reflection time each week provided students with ample opportunities to engage in self-identity development.

Discoveries of Self in Lesson Transcripts and Voice Memos. Analyses of the lesson video transcripts and voice memo transcripts from lessons and conversations with students

throughout the unit also revealed opportunities for students to become further aware of their individual identities. Lessons in this unit were responsive to what the students needed in order to further progress with their project over the eight weeks after its introduction the first week. The first two lessons were designed to introduce students to the unit itself and develop a driving question which then guided the inquiry and goals for the works students did throughout the unit. As the teacher, I engaged students in the first lesson through whole-group discussion and brainstorming where they identified potential problems they wanted to try to solve for this unit. I began this discussion by asking students how they felt at school and how the school community includes them or does not include them. This allowed for reflection time and then sharing, in which many students shared stories of feeling safe at school, cared about, and happy because they had friends. One student explained that she “[feels] mostly happy because [she’s] making a lot of friends here” and another student mentioned that she “[feels] joyful because [she] likes how there’s a bunch of different girls because...at [her] old school [she] wasn’t really interacting with anyone” (Week 1 Lesson Transcript A 2022). During week 4, students watched a video to spark a discussion about how each person in the learning space has something to give to the world. Each student was asked to think about what they felt they could contribute to the world, modeled from the video in which people gave “I can” statements. Students then expressed their own “I can” statements with each other, recognizing their own contributions and abilities that set them apart. One student mentioned “I can teach the world about marble racing because I don’t think many people know about that” which further shows this student’s self-discovery because they recognized that their expertise is a part of what makes them unique, thus individualizes them from the collective (Week 4 Lesson Transcript 2022). Another student mentioned that they can teach the world about “pickleball, because a lot of people think it’s an older sport but

young people can play it too” (Week 4 Lesson Transcript 2022). This student’s thinking leaves room to believe that they have noticed that playing pickleball is a unique aspect of their identity because not many people their age play, thus making this student more self-aware regarding their identity. One student responded that they had no idea what they could bring to the world, and hearing this, I asked the student if it would be alright if I let the class share what they felt this student had to contribute. The student said yes, and immediately, voices erupted in the room. “Creating dragons! Drawing stuff! Riddles and being funny!” (Week 4 Lesson Transcript 2022). This student now had information about themselves through the lens of their peers, which in turn brought about a new level of awareness of who they are and how their peers viewed them, contributing to the development of their identity. These opportunities for students to reflect on and express how they saw themselves in their school community, as well as what they could bring to the world, provided moments for students to think about who they were as individuals and who they were in both current and past environments, integrating their self and social identities which is an indicator of self-awareness (CASEL 2022).

Interestingly, in my first week’s reflection as the teacher-researcher, I noted my observations of students struggling with identity and awareness of who they are, reflecting that “students are very hard on themselves and seem to be very unsure of who they are, especially their own strengths” (Teacher Reflection 1 2022). When triangulating across the other data sources, it is important to note the changes from my initial reflection of students and their own identities to student reflections throughout the unit and the development of their own identities through engaging in their projects. Overall, data analysis shows that this study provided students with ample opportunities to reflect on and experience who they are both within and outside of

groups of people and to develop aspects of their own identity, thus creating opportunities for self-awareness.

Identifying Emotions and Feelings of Self. There are two capacities of self-awareness within the emergent theme of identifying emotions and feelings and are defined by CASEL (2022) as 1) “identifying one’s emotions (how I feel)” and 2) “linking feelings, values and thoughts (connecting emotions to thinking)” (para. 4). Through analysis of the data, coding revealed that students had a plethora of opportunities to express and identify feelings and emotions, and throughout the unit, began to connect their emotions to their thinking.

Identifying Emotions and Feelings of Self in Lessons, Voice Memos and Reflections.

Many students expressed their emotions in their weekly reflections, using statements like “I feel” or “I learned” in relation to their feelings or emotions. These statements were also used verbally during lessons, discussions, and in conversations during work time. The environment created for the unit relied heavily on discussion and communication, and through analysis of the data, students were given opportunities to identify and express their feelings, which occasionally led students to connecting their feelings to their thinking. During the first lesson, students were asked to reflect and share how they felt at school, and whether or not they felt like they belonged. Student I who had been at the school for three years said, “I feel happy because I’m making a lot of friends here” which shows that they related feeling happy to building relationships at school (Week 1 Lesson Transcript A 2022). Similarly, Student N expressed feeling “joyful because I like how there’s a bunch of different girls because a few years ago at my old school I wasn’t really interacting with anyone,” which again shows a student expressing their emotions and connecting them to the relationships they are building with others (Week 1 Lesson Transcript A 2022). Student D stated, “I feel respected because like, you know how at camp I said I feel more

safe because, like, there's people always there? There's people always here, too," showing expressions of emotions such as safety and respect and again, associating those feelings with people and the relationships they have built (Week 1 Lesson Transcript A 2022). Data analysis also revealed a correlation between expressing emotions in relation to productivity. For example, Student P noted in their weekly reflection that they "feel happy about when we got a lot of work done and had fun," associating their feeling of happiness with being productive and enjoying themselves while doing it (Reflection 6 2022). This identification of their feelings shows that the student is comfortable in the environment to express their emotions. Student F, after engaging in group work during their project, expressed frustration with their group members in their reflection. This student expressed,

I have been mad and sad throughout this week since first of all, we were the only group who did not get to talk with the principal. Oh, and also I feel like nobody listens to me so we can't do what we need to do, only what *they* want to do, like mess around. (Reflection 5 2022)

This student's expression of feeling "mad" and "sad," as well as expressing that they do not feel listened to, suggests that they are able to identify and express their feelings, as well as connect them to reasons why they are feeling that way. Interestingly, in the first teacher reflection, I shared an observation I had made and wondered about:

Students often feel a lot of complex emotions but do not always know how to label the feelings or put them into words. Using the [school universals] has helped with that, and I

wonder if this unit will help students with naming their emotions beyond a color.
(Teacher Weekly Reflection 1 2022)

When considering the way students label their emotions throughout the study, no students referenced the school universals which is essentially a system of identifying and expressing emotions using colors. For example, if you are in the blue zone, you may feel tired, sick, or sad. Throughout the study and across the data sources, no student used colors to describe their feelings. Students instead labeled their emotions by stating the emotion explicitly, using statements like “I feel...” and “I felt like...” followed by a descriptive feeling word such as happy, sad, mad, angry, or excited. This shows that students were able to clearly and explicitly express emotions when given the chance to, and many chances were given within this unit through discussion, reflection, and the collaborative nature of the unit. Student J highlighted that “learning about [themselves] made [them] feel good” during an activity in which students were tasked with brainstorming and posting possible problems they noticed in their school community (Reflection 1 2022). This student connected learning about themselves (i.e., self-awareness) and feeling good, thus associating positive feelings to an opportunity to build on their self-awareness.

Identifying Emotions and Feelings of Self from Driving Question Work. During a lesson during week two, I facilitated a discussion surrounding the student-created driving question. The driving question created was “How can students in [the teacher’s] class help all students at Rosedale Elementary feel more welcome and connected at school?” which stemmed from the previous week’s lesson that both introduced the unit and the way to create a driving question which drives the rest of the unit (Appendix E-1 Buck Institute 2019). This driving question *became* the unit, and all activities, lessons, and student projects were based upon this question as

the foundational piece. In week two's lesson, students were tasked with getting specific in what the terms "welcome" and "connected" meant so that they could better inform the types of projects they may engage in to answer the question. Words and phrases that came up for the word welcome included "fitting in/having a place," "recognition for you or your work," "not alone with what you're dealing with," "inclusion," knowing you are important," "having friends," "when people show empathy towards me" and "feeling seen and heard" (Appendix E-2 2022). Students did the same activity for the word connected, identifying words and phrases such as "fitting in," "a part of something," "relationships and not feeling alone," "feeling loved and showing love," "being close with someone," "community," "spending time with people different from us," and "being involved" (Appendix E-3 2022). These brainstorming webs showcased students expressing how they interpreted the feeling of being welcome and the feeling of being connected, linking what they know of that feeling to the thoughts and phrases that made it onto the web. This activity engaged students in identifying emotions and linking them to thoughts and values, a facet self-awareness. Interestingly, Student B reflected at the end of week two some of their insights and expressed some feelings of their own:

I learned that some people don't feel welcome or connected at school. Not just new students. I learned that sometimes I feel like I don't feel welcome or connected at school, and I've noticed that during SEL. That's what I've learned about myself. (Reflection 2 2022)

This student reflected on how the activity of defining welcome and connected made them realize that they have not always experienced those feelings at school. Moreover, this student expressed

that this was something they learned about themselves, showing another opportunity for self-awareness development. Multiple students also shared feelings that didn't relate to their work, but instead just about life in general. For example, Student I wrote, "this week I was sick and I was kind of sad that I wasn't at school and kind of happy at the same time so I guess I learned that I can feel different when I am not at school" (Reflection 5 2022). This student expressed feeling both sad and happy that they were not at school, and then connected those feelings to what they learned from expressing those emotions. Having a space to express, reflect, and share emotions both verbally and written allowed for students to both identify emotions and integrate them with their thoughts and values, thus building on their self-awareness.

Building Self-Empowerment. For the purpose of this study, the theme Empowerment of Self umbrellas multiple capacities of self-awareness, as identified by CASEL (2022); self-efficacy/self-confidence and a sense of purpose. Self-efficacy, for the purpose of this study, refers to an individual's own belief in their ability to carry out specific tasks. Additionally, for the purpose of this study, the Merriam-Webster Dictionary definition for self-confidence has been adopted, which is "confidence in oneself and in one's power and abilities" (Self-confidence n.d.). Both of these capacities of self-awareness are categorized under the emergent theme of self-empowerment as revealed by analysis of the data sources. Throughout the study, students worked on their projects collaboratively with peers who shared the project's goal as something they felt passionate about. Initially, this way of working posed challenges for students. The teacher-researcher reflected after just the first week that:

My students have been an incredibly dependent bunch, constantly questioning whether they're doing something right and often comparing themselves to others, becoming

anxious, and then checking with me because they worked themselves up. (Teacher Reflection 2 2022)

This shows that there was an initial lack of self-efficacy and confidence at the start of this project from the teacher's perspective. It is important to note that project-based learning (PBL) is not widely practiced at this particular school, so students may have at first felt uncomfortable with the way lessons and work were presented to them. Different from what the teacher-researcher observed, students in their first-week reflections expressed feelings of self-confidence. Student E expressed that “[they are] getting more confident in [themselves]” after just the first week of engaging in the unit (Reflection 1 2022). Similarly, Student D reflected that “[they] learned a lot more division strategies and [they] feel good” which shows not only a sense of empowerment and confidence related to academics, but also shows that for this student, they connected SEL time to their confidence gained in a separate subject (Reflection 1 2022). As the project went on, the teacher-researcher reflected again on student confidence and efficacy, noting a shift by week 6:

Creating plans has helped students work together better and a lot more students are feeling more confident in leadership and delegating tasks better. I think this could be because instruction has been intentional to their needs, and many groups struggled with hierarchies in their small groups which often got in the way of getting work done in the initial weeks of the project. This skill has been difficult for many of them, but seeing it develop over the past few weeks has been a positive thing to see. I think that a lot of students had to become more aware of themselves as individuals and then themselves within a group which led to some reality checks that led to some changes in how they handle themselves in a group. (Teacher Reflection 6 2022)

The time allotted for students to work together and problem-solve within groups for a longer duration (eight weeks) may have allowed students to build on their self-confidence over time, thus providing opportunities for further development of self-awareness.

Developing A Sense of Purpose. Finally, analysis of the data exhibited students developing and expressing a sense of purpose in their project work throughout the unit. Having a sense of purpose for the purpose of this study is defined as finding a reason to engage in a task or make something happen, or recognizing its importance and relevance beyond oneself; it appeared in the data as students showing signs of engagement in their projects and either expressing that verbally during lessons/work time or through written reflection. For example, when students were initially brainstorming project ideas, one student suggested “we could raise money to fix up the school and help parents that didn’t go to school” (Voice Memo 1 February 9th 2022). This student from the start was able to recognize that there may be families who struggle financially, and that was motivating to this student to create a project surrounding that purpose. Once students created lists of possible project ideas, students then condensed them to narrow them down to five projects. In my third weekly reflection, I noted that this process was engaging for students and allowed them to choose projects that they saw purpose in:

...students feel very strongly about having [these ideas] as separate projects. Students were extremely motivated and engaged, as many were talking to each other, brainstorming project plans before we narrowed down everything to the final list. We ended with students choosing their top two favorite ideas that they felt most passionate about. It was refreshing to see on their sheets that students really chose their passion, and not what their best friends wanted. (Teacher Reflection Week 3 2022)

This reflection entry shows students, when given the opportunity to brainstorm ideas for projects from the start, were able to gain a better sense of purpose and develop their own interests, thus providing an opportunity for self-awareness. In a later reflection, I also noted in my observations that “students in one group recognized the need to regroup because some members were a bit lost on their goals, but once they established their goals, they were all back on track and were able to dive deeper into their work” which shows that when students were working together toward a clear, common goal, they were able to find a greater purpose in their work which indicates self-awareness.

Additionally, at the start of the unit, students learned how to create a driving question which involved brainstorming four areas: topic, purpose, audience, and product. Once initial ideas were generated in relation to problems at Rosedale Elementary School, students looked at all of the problems they identified and came to the conclusion that “making all students feel welcome at [school]” was the topic that each project idea connected to (Appendix E-1 2022). Students then shared what they felt the purpose for solving that problem was:

If students don't feel welcome, then they won't want to be here. If you don't make people feel welcome, parents will get mad and it will lead to a cycle of unhappiness. At school, you can make friends. If you don't make friends, you are not going to feel happy. If you don't feel welcome, parents will hear and they will leave the school and then students may not be learning. If we don't feel welcome, we can't do our best thinking or learning. When we know who people are and can connect with them, we can play soccer or know them and introduce them to other people. (Appendix E-1 2022)

Students were given the opportunity to not only identify a problem they found to be present in their school, but they also defined a purpose for their work from the start, connecting each group

project to each other through the common driving question and purpose behind it. This purpose statement and the driving question were referred to often throughout the unit by both myself and students, and was often used as a reflection tool to make sure projects were still aligned to the overarching purpose of making students feel more welcome and connected at school. In Student B's (2022) fifth weekly reflection, they expressed that they "think we will have a clean school" and that they "think this will change our school" which showed their awareness of the purpose and power of their project, and was also motivating for the student to continue working (Reflection 5). Student A expressed in their reflection that "hopefully the project will make a change," exhibiting the class-discussed purpose of the driving question by recognizing that making a change may be a result of their work (Reflection 3 2022). This opportunity to reflect and engage in this project allowed for the student to develop a deeper sense of purpose, thus increasing their self-awareness. Lastly, Student N reflected that they learned that "it's not all about having fun. It's about helping kids at [school] join the community" (Reflection 2 2022). Similar to Student A, this student came to a realization that there is a greater purpose to their project and that the project is possible; this reflection statement shows an increased level of self-awareness because the student recognized that their work has a greater purpose than they initially realized. Overall, students were able to engage in learning activities that built upon their self-efficacy, self-confidence and sense of purpose which are all indicators of self-awareness development.

Social-Emotional Learning, PBL, and Social Awareness

Recognizing the Perspectives of Others.

Perspective Taking in Student Written Reflections. Perspective taking for the purpose of this study is defined as 1) being able to listen to others, even when disagreement arises and 2) having awareness of the perspectives of others (CASEL 2022). Through analysis of the data, perspective taking emerged as a prominent theme across all data sources, including student reflections, artifacts, teacher reflections, and lesson transcripts. For example, multiple students reflected on their agreements and disagreements with each other throughout the project. Student E mentioned that “our group is starting to agree with each other. We stopped fighting and crying. We are getting along! We are a great team and sometimes we don’t know that” (Reflection 6 2022). This student reflected on how their group had shifted from arguing and disagreeing to moving toward more agreement, which helped them realize that their group was happier and working more productively when they could all take each other’s perspectives and continue on. While Student E identified agreement as what helped their group, Student I reflected that in their group, “sometimes disagreeing is fine. We all still work together. We all talk sometimes which is perfectly fine. We always work together. It’s really fun when we work together” (Reflection 6 2022). This student also reflected on perspective taking, but expressed that their group came to terms with disagreement and that disagreement is okay, because one can disagree and still work cohesively with a group. Student Q reflected on their perspective taking of the students who would be most impacted by their project, stating “I learned that once kindergarteners get used to school, they like a lot and they feel good and happy” (Reflection 6 2022). Once this student began to work with the students that their project most directly impacted, they were able to see and then reflect on the perspectives of those students. Similarly, Student R reflected the same week that they learned “you have to explain things very specific to kindergarten” and that “a lot of people in the school said they loved the school” which seemed to surprise them (Reflection 6

2022). Recognizing the perspective of others in this way provided students with an opportunity to develop social awareness. One student reflected that “I have learned that we all agree on stuff sometimes and sometimes we don’t agree on stuff” which shows that this student recognized that agreement and disagreement are both natural occurrences in group settings, thus increasing their social awareness. During week four, Student C reflected that it’s important to “disagree kindly and nicely” and added that “we can listen to everyone even if you don’t like their ideas”; this reflection exhibits a strong sense of perspective taking by their realization that no matter what, it is possible to sit and listen to an idea even if you are not fond of it (Reflection 3 2022). Similar to this student, Student D reflected that “no one has to agree with [them] to work with [them]” which is a powerful realization because it shows that 1) they are aware of themselves enough to not feel hurt if they are disagreed with and 2) they are open to others’ ideas even if they themselves don’t agree or have a different suggestion (Reflection 3 2022). Student L expressed that they learned “to disagree respectfully and if you disagree respectfully you’re more likely to get what you want because people respond more to people talking respectfully,” which exemplifies their takeaway from that week’s lesson on disagreeing appropriately and respectfully, as well as their realization that disagreements do not have to have negative outcomes (Reflection 3 2022). Their noticing that speaking respectfully to others is more likely to elicit a response from someone, even if in a disagreement, is evidence of increased social awareness. Student K reflected on their group having different ideas and thoughts, stating that “[they] learned that people have other things to say and do” and that they “[they] think [their group has] great ideas” (Reflection 4 2022). This shows evidence that this student was actively thinking about their experiences with their peers in their group, and recognized that they all have

different assets to bring to the table, thus considering perspectives of others and viewing that in a neutral way.

Perspective Taking Outside of Student Written Reflections. During a reflection toward the end of the unit, one student shared about their group's perspective taking with each other to work with each other more effectively:

I feel like we really understand now how to compromise with each other and using different words instead of just saying stuff like 'oh you're so dramatic'...we understand how everyone feels so [we] know how to talk to [each other]. (Voice Memo 3 2022)

This student's verbal reflection exhibits their group's change in social awareness over the course of the unit, expressing that they now understand how to better communicate with each other because they are aware of how others feel, thus taking into consideration the perspectives of other people. In contrast to this reflection, another student shared that some parts of the project were going well and others were not. When I inquired for them to tell me more, they shared that "we understand each other more, but we still argue a lot" which I followed up with sharing that this shows even when we get to know people well, we can still have disagreements (Voice Memo 3 2022). This student also increased their social awareness, but through recognizing that their group is still having difficulties despite understanding each other more, unlike the student who felt their group had been able to work better together because of compromise. Another student also reflected verbally about their own experience taking the perspective of their group members, sharing that "some people weren't understanding where things were going when we already understood it...some people knew and some people didn't and were a little more behind.

We had to regroup” (Voice Memo 4 2022). By recognizing that the solution to this problem of group members not being on the same page was to regroup and assist everyone in realigning with their project goals, this student showed an increased level of social awareness through taking the perspectives of the students in their group that were not as aware of their tasks at the time.

Similarly, another student in a different group shared that “most of [them] were thinking [the note to the principal] was ready to be sent and some of [them] weren’t” which was affecting their productivity due to disagreement (Voice Memo 4 2022). This group still had to problem solve as to how they could better include everyone’s perspectives in order to realign to their project purpose, and through that problem solving, opportunities for increasing social awareness were apparent. In addition, during a lesson on kindness in which students watched a kindness video where one small act of kindness started a chain of thoughtful actions, one student reflected that “[people] can be kind but they don’t have to be kind in the same way” which exhibits perspective taking through the recognition that everyone has the ability to be kind, but can do so in ways that make sense to that person. This increased social awareness may be a result of connecting their thoughts about the video to the world around them and shows that reflection can lead to perspective taking. Finally, I reflected on a situation in which two students were bickering about whose job it was to write a letter for a part of their project. One student was assigned the job, but chose to “goof off” according to their group members, so they just took it upon themselves to have someone else do it. In my reflection, I expressed the following:

I felt like this interaction was showing a sense of perspective taking, as the student was willing to let the other student write the letter as they wanted, but then recognized that the student’s off-task behavior was causing their group to fall behind and not get their work done. (Teacher Reflection Week 5 2022)

After five weeks of this group working and combating a variety of off-task behaviors with various group members, the ability of some group members during this particular week to recognize the impact of those behaviors on their work time allowed for their own perspectives to emerge and act as in favor of supporting their group and their project. This increase in social awareness through perspective taking allowed for the group to have increased productivity on their project as well.

Through engaging in student-centered activities that allowed for collaboration with others, working on a project unified by a driving question and purpose, and opportunities for reflection on time spent working with others on this project, students were provided with ample opportunities to increase their social awareness through the capacity of perspective taking.

Considering Feelings and Experiences of Others.

Considering Feelings and Experiences of Others in Lessons, Voice Memos, and Artifacts.

Students were given ample opportunities to increase their social awareness, as the unit itself centers on working collaboratively with peers to answer a driving question which establishes the central purpose. Through collaborative projects, discussions, and opportunities for reflection throughout the duration of the unit, students had a plethora of opportunities to develop and increase their social awareness. A second theme that emerged from data analysis and triangulation of the data sources was students demonstrating empathy and exhibiting concern for the feelings of others. Demonstrating empathy and showing concern for the feelings of others are both indicators of social awareness, as identified by CASEL (2022). Many students demonstrated empathy, defined by Merriam-Webster as “the action of understanding, being aware of, being

sensitive to, and vicariously experiencing the feelings, thoughts and experience of another” which is the definition adopted for the purpose of this study (Empathy n.d.). From the beginning of this unit, students immediately demonstrated empathy in their suggestions for projects. For example, one student shared during small group brainstorming that “there should be a student day because every single year new Kindergarteners come and they’re always scared so they should always get a little party just to make them feel welcome” (Voice Memo 1 February 2022). By putting themselves in the shoes of the kindergarteners, this student demonstrated empathy by considering kindergarteners’ feelings and emotions in relation to the driving question, which centers on helping all students at school feel more welcome and connected. Another group of students during this same discussion were discussing how to help students who do not attend school. One student had suggested they raise money “for kids who don’t go to school so that they can be more respected” and when asked how it relates to the driving question, the student clarified and said, “well, it can make kids feel more welcome because they can have friends, they can actually learn more...we’re going to help them go to school so that they can have friends” (Voice Memo 1 2022). While this project idea may not be as focused as others, this shows both empathy and concern for feelings of others through considering the experiences of kids who may not have access to education, as well as considering the feelings of others in that situation. A third group mentioned that they were thinking of a project where they would create maps with a clear map key “because...if kids don’t know where their room is on the first day, on each board, they could see their room” which would make them feel “happy because...if they’re ever not knowing where anything is, they can find it” (Voice Memo 1 2022). This shows concern for the feelings of students who may not be able to find their way around, thus increasing social awareness. One student suggested during project brainstorming that the lunch menu needs to

have more lunch choices, expressing concern for their classmates who are unable to eat certain foods due to allergies or diet restrictions (Lesson 1 Week 1 2022). Similarly, another group wanted to create a bench that could be used to include others at recess. They shared that “this project will help first grade, kindergarten, second grade, third grade, fourth grade, and fifth grade. This will help them all outside at recess when they don’t feel welcomed” (Presentation A Week 8 2022). They added the purpose behind their project as well, and why they felt it was important:

Our project is important because people who are upset, sad, and who don’t have a friend could go to the Buddy Bench and someone would basically walk up to them and sit down and they could become friends. And then it would start all over again, like a cycle. And people who are upset, mad, can get calmed down by one of their friends if they aren’t already walking on the track with their friends. (Presentation A Week 8 2022)

This demonstrates both empathy by recognizing people may feel unwelcome at recess, and also concern for others’ feelings because they explain that it will help all grade levels, identifying that any student could feel unwelcome and that is the problem the driving question is trying to solve. By engaging in this SEL project, students increased their social awareness by demonstrating empathy and showing concern for the feelings of others.

Additionally, another group created a weekly trash clean up that included the whole school in order to make the school environment cleaner, which helps students feel more welcome at school. They showed concern for others’ feelings in their presentation, in which they stated that “this project helps all people at our school feel welcome and connected because maybe a kid would try to pick up a piece of glass and get cut” (Presentation C Week 8 2022). This concern

for others helped drive their project and gave them an opportunity to build empathy, as well as increase their social awareness through engaging in a project that serves a purpose beyond themselves.

Lastly, another group of students worked on a project that included creating a group of student tour guides, and in their project presentation, they shared that a student-led tour is better than an adult-led tour because “if it’s a kid, it is probably going to be better because you have someone closer to your age and one time when I was reading a book and the character opened up to kids around his age way more than an adult” (Presentation D Week 8 2022). Not only did the students connect academic learning to their SEL project, they also demonstrated empathy by expressing the difficulty students may have with connecting with an adult versus a student close to their age. Students also demonstrated empathy when defining the words “welcome” and “connected” in the driving question. When defining “welcome,” words and phrases that came up included “feeling connected,” “making people feel like they belong,” “when people show empathy towards me,” and “knowing you are important” (Appendix E-2 2022). When defining “connected,” students shared phrases such as “being human,” “being close with someone,” “being a part of something,” “community,” “connecting to something bigger,” and “spending time with people different from us” (Appendix E-3 2022). These phrases were shared in a discussion with the whole class when I facilitated and recorded student answers as they shared. Many students had stories about times in their own lives when they did not feel welcomed or connected, so that enabled them to empathize with and show concern for others who may also be feeling that way. This also allowed for students to relate to one another and realize they were not alone in feeling unwelcome or disconnected at some point in their life, which helped them consider the feelings and experiences of each other. It also brought students closer to the purpose

behind the driving question, and through this discussion, students were able to build on their empathy skills, thus increasing their social awareness.

Considering Feelings and Experiences of Others in Student Weekly Reflections.

Reflections of both the students and myself revealed more evidence of increased social awareness through demonstrations of empathy and concern for the feelings of others. In their first weekly reflection, Student N noted that they learned “some people need more help than other people...physically and mentally” which exhibits awareness of the experiences and needs of others, thus making this an opportunity for increasing social awareness. Student K also recognized what helps others feel welcome and safe, stating that “people like when they have friends that like them and to know that they matter. [They] like when kids say ‘good job’ and ‘you’re so smart’ or ‘nice work’ and stuff” (Reflection 1 2022). Through sharing how helpful actions and words can impact the way people feel, this student demonstrated empathy and concern for others, thus increasing their social awareness. Also in their first reflection, Student I expressed that they now “see that some people can feel left out but [they] can help them” (Reflection 1 2022). This student shared that they now understand that other people can feel excluded, but by working on this project, they also learned they are capable of helping those people problem-solve that. This shows the student identifying and having some concern for the feelings of others by recognizing how others feel and also being willing to problem-solve to help combat those feelings of exclusion. Additionally, Student C reflected after the first week that “sometimes your words hurt other people’s feelings a lot” which shows a heightened sense of social awareness because of their reference to how words can hurt the feelings of other people (Reflection 1 2022). Interestingly, Student C also shared this in their second weekly reflection, stating that “your voice can hurt other people’s feelings” (Reflection 2 2022). It is worth noting

that this student did not see their previous week's reflection, so this realization continued into week two as well, showing consistency in their development of social awareness.

This concern for others continues to show up throughout student weekly reflections, especially as the unit prolonged and students continued to collaborate with each other. During the second week of reflections, Student I noted in their reflection that they were concerned that “a lot of people [in school] don't feel safe” after engaging in a discussion during the week about how students feel if they are not welcomed or connected (Reflection 2 2022). Student I did not elaborate more, but their thinking that not everyone feels safe was concerning or surprising enough to them to include it in their reflection, showing concern for others, and thus exhibiting increased social awareness from engaging in the lessons and discussions from the week. Student O shared a reflection that exhibited their increased social awareness through demonstrating empathy; they shared that they felt that “somewhere in the world someone is being teased/bullied and it makes [them] sad. Like how we all were (maybe) when the puffball jar shattered” (Reflection 4 2022). This student showed concern for others by thinking of the possibility of people getting bullied or teased, and recognizing that they felt sad as a result of how being bullied or teased may make them feel. In addition, Student D's reflection of their own actions led them to develop concern for the feelings of others as a result of their actions, sharing that “I think that everybody should have part no matter if they're bad at it or good at it...I think that I need to not take over everything, that [my group members] can help me think” (Reflection 5 2022). This student recognized that people were not feeling like their voices were heard because this student kept putting themselves in control. Through this realization, Student D showed concern for the feelings of their group members and then demonstrated empathy by making a change in their actions to help their group members see that they had a valuable role and insight

in their group. Another student connected their learning to their father, sharing that they “learned that it’s hard to get all the stuff we need [done]. So now when my dad says work is hard I can see why” (Reflection 6 2022). This reflection demonstrates empathy through consideration of the feelings of the student’s father, thus demonstrating social awareness through being empathetic. By giving students opportunities to reflect on their experiences each week during the unit, it is evident through data analysis that students had multiple opportunities to collaborate with one another and connect to themselves which led to the development of empathy and concern for the feelings of others, thus increasing students’ social awareness.

Considering Feelings and Experiences of Others in Teacher Reflections. Lastly, in my weekly reflections, I noted multiple examples throughout the duration of the unit that exhibited students demonstrating empathy through words and actions, as well as showing concern for the feelings of other people. For example, in my first reflection, I shared how students reacted to each other’s stories of getting bullied at school:

Students have been empowered this week and have driven most of the discussions on their own already with me facilitating. They all seem to be truly motivated and impassioned by helping other people. They made some disgusted faces when people shared bullying experiences in school, and many students made comments about how they hope no one in our class feels that way now. (Teacher Reflection Week 1 2022)

Analysis of this reflection reveals that many students had a strong sense of empathy upon starting this unit, and this empathy continued to guide students in their project work, group collaboration, and discussions. It also shows that discussions were a powerful tool in helping students build on their empathy and concern for others’ feelings, thus providing opportunities to

deepen their social awareness. Additionally, during the first week, I observed that while revising the driving question, students wanted to include somewhere that “every kid should feel welcome” which resulted in the addition of the word “all” to the driving question (Teacher Reflection Week 1 2022). This concern for others was evident during the creation of the driving question, as “students focused a lot on activities that were inclusive of all, affected and benefited all students, and ideas that were realistic,” exhibiting empathy and considering the feelings of others, including those different from them (Teacher Reflection Week 1 2022). One student, when finalizing their project idea, suggested that “we should have the map key have that stuff used for people who are blind so that they can read it too” (Teacher Reflection Week 2 2022). This student truly was thinking of *all* the people who may use the map they were creating, and wanted to make sure it was accessible for those who experience blindness. While this student had not experienced blindness, they demonstrated empathy by considering the experiences, feelings, and needs of those who do experience blindness, thus exhibiting social awareness.

As we wrapped up the fourth week of the unit, I noted that students continued to reflect on what was going well and what was still posing a challenge to their projects, and there were almost always more challenges and issues arising than things that were going well and helping students feel successful. Despite this though, as described in my reflection of week four, “most students used “we” and not “I” when talking about what went well and what was not going well” (Teacher Reflection Week 4 2022). This shows students’ concerns for each other’s feelings because their collectivism built up during their collaboration and shifted their perspectives from focusing on themselves to focusing on the group. This collectivist mentality increases social awareness due to the perspective shift by more deeply considering and caring about the feelings of others in their groups; they view the group as something bigger than themselves, but not

without remembering they are an important part of it. One group really struggled with having empathy for each other, constantly bickering over who was in charge of what and dealing with constant power struggles. This endured for a couple weeks when students were mostly on their own, working with their group to create their projects. In the seventh week, I reflected on a statement made by one of the students in this group, sharing that “[they] all talked about [their] feelings...and we all did that because we’re getting angry. But now that we did that, we are actually happy and working because we know how everyone feels” (Teacher Reflection Week 7 2022). This demonstrates concern for others, as this group realized that their arguing and anger was causing the group as a whole to be unproductive and unsuccessful and they problem-solved through showing concern for each other to ensure success in their project. In a different group, I reflected on a conversation I had with students who were planning to create a special event for kindergarten students. As we discussed their ideas, one student mentioned, “wait, how can we know what someone else likes if we don’t ask? Then it would just be our stuff and they might not like what we like” (Teacher Reflection Weekly 5 2022). In this conversation, this student recognized the importance of considering the feelings of others and then worked with their group to take action and make necessary revisions. This demonstration of empathy and taking action as a result of that consideration of the feelings and interests of others shows that their project did give them an opportunity to build upon their social awareness.

Summary

Triangulation of the data across multiple sources including student reflections, teacher-researcher reflections, artifacts, observations, lesson videos, and voice recordings revealed that overall, the social-emotional learning unit taught through a project-based learning framework did

provide ample opportunities for students to engage in self-awareness, specifically exhibited through discoveries of themselves, identifying thoughts and feelings, and building self-empowerment such as self-confidence and self-efficacy. Triangulation of the data across multiple data sources also revealed that overall, the social-emotional learning unit taught through a project-based learning framework also provided ample opportunities for students to engage in social awareness, specifically exhibited through perspective taking, demonstrating empathy, and showing concern for the feelings of others. This resulted in an increase in students' social awareness. Based on these findings, I posit that an SEL unit taught through a PBL framework does provide opportunities for students to engage in self-awareness and social awareness.

DISCUSSION

The purpose of this qualitative study was to conduct research on project-based learning (PBL), specifically opportunities PBL may create for social-emotional learning (SEL), and to inform educators, school leaders, interested parties, and policy makers about the importance of advocating for student-centered pedagogical practices like PBL for K-12 students, especially when considering how to increase students' social-emotional development. Two research questions were used to guide this study: 1) how can a social-emotional learning curriculum taught through a PBL framework create opportunities for self-awareness? And 2) how can a social-emotional learning curriculum taught through a PBL framework create opportunities for social awareness? Through analysis of the qualitative data collected, both of these questions can be answered with insights into necessary further research. This chapter includes the following sections: (a) Summary of the Findings, including Self-Awareness, Engagement and Achievement and Social Awareness, (b) Implications, (c) Limitations, (d) Recommendations for Future Research, and (e) Conclusions.

Summary of the Findings

Using two competencies of SEL, self-awareness and social awareness, as focuses for this study, the enactment of a PBL framework to teach these social-emotional skills presented elementary students in my class with a plethora of opportunities to engage in, develop, learn about, and apply skills in the areas of self-awareness and social-awareness. As a result of this study, the data reported that engaging students in SEL through a project-based unit did allow for ample opportunities for both self-awareness and social awareness, including higher levels of the

following: 1) student self-confidence, 2) more comfortability in identifying and expressing feelings and emotions, 3) deeper insights about themselves, 4) awareness of the perspectives of others and 5) increased empathy and concern for the feelings of others.

Self-Awareness, Engagement and Achievement. In this study, a project-based learning framework was used to design a unit that focused on social-emotional learning, specifically looking at the standards of student self-awareness and social awareness. Students collaborated to identify problems that could affect a person's feelings toward school, and then crafted a driving question (how to make all students at Rosedale Elementary School feel more welcome and connected) which guided the rest of the unit. This strengthened student engagement due to increased levels of ownership and investment by designing the trajectory of their learning, which supports the findings of both Evans (2019) and Kaldi et al. (2011) in which increased levels of student achievement were reported due in part to higher levels of engagement when learning through a project-based unit. The more that students in this study engaged with their projects and collaborated with peers, the more comfortable students became in identifying their feelings and emotions. That increased comfortability in expressing, identifying, and connecting thoughts to emotions and feelings shows that opportunities for self-awareness were present throughout the unit, and provided students with more introspective insights.

The results of this study also support the findings of Krajcik et al. (2021), noting that aspects of PBL allow for furthering student learning in both science and SEL. While Krajcik's study used science as the subject and this study used SEL as the subject being taught, it is important to note that PBL promotes both academic learning *and* SEL skill development. Students designed projects that required mathematical knowledge such as measuring, adding and subtracting, and determining costs of items. Students were consistently engaging in reading and

writing throughout the entire unit as well, ranging from reading for research to writing letters to the principal or emails to teachers. All academic learning in this unit was built upon the foundational social-emotional learning opportunities that this unit created, which students developed through reflection, discussion, and collaboration with others.

Additionally, the unit in this study was designed to focus solely on the SEL skills of self-awareness and social awareness. That being said, other academic areas such as math and literacy were not intentionally built in due to the goals of the study and the student-centered and student-driven nature of PBL, but were still a part of the unit as a result of being responsive to student needs. This supports Fitzgerald's (2020) findings that a PBL unit with integrated subjects provided elementary students with increased opportunities for learning in both academic areas and SEL. This also supports the following ideas of Immordino-Yang et al. (2018), who shared that students' social-emotional development and academic development are intertwined:

To develop habits of mind such as curiosity, awareness of one's own understanding, and persistence—as well as empathy and ethical reasoning—teachers engage students in extended tasks that incorporate students' interests and choices...[and] also provide students with opportunities to exhibit and explain their thinking, gain feedback from one another, and revise their work. These processes contribute to deeper learning and help students develop perseverance, resilience, and a growth mindset. (p. 16)

This case exhibits one way in which the integration of PBL and SEL allows for both academic and social-emotional learning to take place in an elementary classroom, and how the integration of PBL and SEL skills creates increased opportunities for both learning about the self and learning about others. Not only does this case show the potential for SEL skill development in

PBL, it also supports the notion that PBL allows for the *deeper* development of social-emotional skills (Dresden 2018; Fitzgerald 2020; Kaldi et al. 2011). Like Kaldi et al. (2011) found in their study, this study also reported an increase in student self-efficacy and confidence in themselves as learners, as well as finding group work to be positive and important. Many students reflected on challenges with working with groups, specifically when disagreements arose, but by the end of the unit when all of their learning came together in their final projects, they reflected positively on the work their groups were able to accomplish together.

It is important to note that throughout this case study, whenever students reflected whether written or verbal, or were simply just discussing situations with their groups, there was a shift in students focusing more on the collective than their individual selves. This came up through consistent usage of the word “we” instead of “I” when expressing problems, reflections on what could be done better, or in general discussions about the progress of their work. This collectivist mindset may have been a result of an increase in intrinsic motivation, as students began to consider the impact of their actions and their group members’ actions on their project quality. The initial hierarchies within groups shifted toward more collective, collaborative teams as the unit went on, which is also acknowledged by Baines et al. (2021); these findings provide some insight into further research needed to understand group dynamics within the context of PBL.

Social Awareness. The findings of this case study also illustrated that PBL provides ample opportunities for empathy building and perspective taking, which are two competencies of the SEL competency of social awareness (CASEL 2022). As students reflected, shared positive and negative experiences from school such as times they felt a sense of belonging and times they didn’t, and collaborating within their project groups, data showed that students demonstrated

empathy and concern for others throughout the study. Opportunities to take on the perspectives of others allows students to engage with themselves and their peers in new ways, and helps students establish their identity as an individual and as an individual within a group. These findings support Baines et al. 's (2021) ideas on expression and collaboration, two of their identified key elements of SEL that are integral to PBL. Through collaboration and expression throughout the unit, students in this case study were able to further understand themselves and others through taking the perspectives of the experiences of others, and were able to apply that learning in the moment. Whether it was a student checking in on a frustrated peer, writing about their realizations regarding ways in which their peers have similar or different experiences to them, or actively listening during group discussions, the data showed that students both increased and deepened their social awareness through this PBL-designed, SEL-centered unit. Becoming more socially aware as a result of engaging in a student-centered curriculum, regardless of the subject(s) being learned, supports the findings and discussions of Allensworth et al. (2018), Baines (2021), Beisel (2021), Immordino-Yang et al. (2018) and Jagers et al. (2019). Through enacting project-based learning into teaching, a student-centered instructional methodology, opportunities for increased SEL capacity development in students, specifically self-awareness and social awareness, are abundant.

Implications

The opportunities for advancement of elementary student self-awareness and social awareness when students engaged in a SEL unit plan taught through a project-based learning framework provide insight into the growing body of research in support of integrating social-emotional learning and academic learning. Additionally, the results of this study affirm previous research conducted on the overwhelming benefits of student-centered instructional

methodologies like PBL, such as student engagement, academic achievement, and engaging in and applying real-world skills. If more schools across the K-12 educational landscape could support educators in the implementation of more student-centered practices such as PBL, opportunities for the development of social-emotional learning skills such as self-awareness and social awareness may increase for even our youngest students. By integrating academic learning, social-emotional learning, and project-based learning, it is expected that student engagement, sense of identity, empathy development, and perspective taking will increase. It is also probable that student achievement will improve. While these implications could prove invaluable to students, it is important to note the barriers in the way. Until there is effective policy change that centers students in which the education system is supposed to serve, increased support and training for educators from administrators and policymakers, and more resources and funding allocated to public schools to support student-centered instruction and effective SEL programs, these implications have limitations in their application. School district administration, policymakers, and interested parties in public education need to consider advocating more for student-centered pedagogy and integrating SEL into those practices in order to ensure that education is accessible and equitable for all students; it begins when we break the barriers that stand between a standardized education and an equitable one.

Limitations

There are a few limitations to this study that are important to recognize in order to make changes for future research. First, this was a case study, in which only one teacher in one school was utilized to enact this unit. It would be beneficial to have this study done across multiple schools within the same grade level to have a larger sample size and thus more precise results. Additionally, this study was conducted with a classroom of students in a predominantly White,

affluent neighborhood; thus, this sample of participants does not adequately reflect the general population. The reason for this was that the teacher-researcher used her own class for the study. Another limitation of the study is that student reflections were collected as opposed to student interviews, which may have prevented some students from elaborating further in their self-reflections due to their age and lack of experience with reflections. Lastly, this study was completed over the course of eight weeks, with one week being cut short due to inclement weather. It would be interesting to see what data may show if the study were conducted over a longer period of time, and also within various subjects besides strictly SEL. Similar to Fitzgerald (2020), how might opportunities for SEL emerge when a PBL unit for math or writing is taught?

Recommendations for Future Research

Despite the limitations of this study, the results reported as well as prior research in relation to PBL and SEL lay out a tenacious foundation for future research. One direction that would be interesting is examining the effects of student achievement and SEL skill development on enacted PBL curriculum with educators who have been adequately trained to teach PBL units. Most existing research on PBL expresses the same common challenges with enacting PBL which include the preparedness of educators and allotted time to plan for a PBL unit. This would be a worthy investment too, as it could contribute to the current research that shows the benefits PBL has on student achievement, engagement, ownership, etc. Additionally, it would be interesting to research the ways in which PBL can impact achievement in math, reading, and writing, as these subjects were lacking across existing literature regarding PBL. Another avenue for further research that could contribute compelling evidence for both PBL and SEL is further analyzing the impact of PBL and SEL on minimizing inequities in education, specifically for historically

underserved populations. A larger sample size of students would strengthen that research. It would also be interesting to research the implications of a PBL unit and the opportunities created for the additional SEL competencies, including relationship building, self-management, and responsible decision making. This could provide a more comprehensive understanding of the effect on students when SEL is explicitly integrated into PBL. Lastly, it is worth noting that multiple studies discussing PBL and SEL discuss the pertinent need for further research, advocacy of, and implementation of PBL and/or SEL in order to do what is best for all students in public education (Jagers et al. 2019; Allensworth et al. 2018; Baines et al. 2021; Fitzgerald 2020; Durlak et al. 2011; Jones and Kahn 2017; Immordino-Yang et al. 2018; Dresden 2018; Weissberg and Cascarino 2013; Kaldi et al. 2011; Krajcik 2021).

Conclusions

All students deserve access to an equitable, student-centered, engaging educational experience. Now more than ever, student access to this kind of education, an education that allows for self-discovery, exploration, and real-world skill development and application is limited due to inequitable educational policies and a lack of advocacy for student-centered instructional methodologies that often embed social-emotional learning within academia. As Baines (2021) explains, “social and emotional development isn’t an add-on to academic experiences but is integral to those and a core part of a student’s overall education” (p. 2). This study’s findings have shown that student-centered practices such as project-based learning, allow for ample opportunities for social-emotional development in elementary students. Not only that, it is already known within the growing body of research that student-centered practices like PBL also create opportunities for deeper levels of engagement, promote collaboration, facilitate

critical thinking, engage students in real-world experiences, and often increase student achievement. Social-emotional learning allows for further understanding of students' identities and emotions, assists students in demonstrating empathy through perspective taking, and helps their social development as a whole. These advantages of project-based learning and social-emotional learning are not ones to be ignored, for ignoring both the research bodies of PBL and SEL will prove to be detrimental to students everywhere. This again begs the question, who is education for? If policymakers, curriculum designers, interested parties, education leaders, administration, and educators truly believe that education is for the students in which we serve, then it is time to start acting like it. With the research available that identifies the positive impacts that both PBL and SEL have on students, this case study contributes and builds onto those ideas, in relation to the opportunities for increased self-awareness and social awareness through the integration of PBL and SEL. "Integrating social and emotional development with academic instruction is foundational to the success of our young people, and therefore to the success of our education system and society at large"; when we allow for the intersectionality of social, emotional and academic learning through student-centered instructional practices like PBL to take place in our schools, we are not only investing in our students, but in our society (Jones and Kahn 2017). The time to act is now.

REFERENCES

- Aksela, M & Haatainen, O. (2019). Project-based learning (PBL) in practise: Active teachers' views of its advantages and challenges. Queensland University of Technology.
- Allensworth, E.M., Farrington, C.A., Gordon, M.F., Johnson, D.W., Klein, K., McDaniel, B., & Nagaoka, J. (2018). Supporting social, emotional, & academic development: Research implications for educators. Chicago, IL: University of Chicago Consortium on School Research.
- Baines, A. M. (2021). Why social and emotional learning is essential to project-based learning. Lucas Education Research, 1–14.
- Beisel, K. (2021). Project-based learning: Helping students thrive socially and emotionally. *Childhood Education*, 97(5), 6–13.
- Berg, J., Osher, D., Same, M. R., Nolan, E., Benson, D., & Jacobs, N. (2017). (rep.). *Identifying, defining, and measuring social and emotional competencies*. American Institutes for Research.
- Blumenfeld, P. C., Soloway, E., Marx, R. W., Krajcik, J. S., Guzdial, M., & Palincsar, A. (1991). Motivating project-based learning: Sustaining the doing, supporting the learning. *Educational Psychologist*, 26(3 & 4), 369–398.
- Bremner, N. (2021). Learner-centeredness. *English Language Teaching Journal*, 75(2), 213–215.
- Bridgeland, J., Bruce, M., & Hariharan, A. (2013). (rep.). *The missing piece: A national teacher survey on how social and emotional learning can empower children and transform schools*. Civic Enterprises.
- Buck Institute for Education. (2019). *Essential project design elements checklist*. https://my.pblworks.org/resource/document/pbl_essential_elements_checklist.
- Buck Institute for Education. (2019). *Project design rubric*. PBLworks.org. https://my.pblworks.org/system/files/documents/PBLWorks_Project_Design_Rubric_v2019.pdf.
- Buck Institute for Education. (2015). *What is PBL?* PBLWorks. <https://www.pblworks.org/what-is-pbl>.
- CASEL Staff. (2022). *SEL is...* CASEL.org. <https://casel.org/what-is-sel/>
- CASEL Staff. (2022). *SEL: What are the core competence areas and where are they promoted?* CASEL. <https://casel.org/sel-framework/>.

- CASEL Staff. (2022). *What is the Casel Framework?* CASEL.
- Condliffe, B., Quint, J., Visher, M. G., Bangser, M. R., Drohojowska, S., Saco, L., & Nelson, E. (2017). *Project-based learning: A literature review*.
- Creswell, J. W. (2013). *Qualitative inquiry & research design: Choosing among five approaches* (3rd ed.). Sage Publications, Inc.
- Deutscher, R. R., Holthuis, N. C., Maldonado, S. I., Pecheone, R. L., Schultz, S. E., & Wei, R. C. (2021). (rep.). *Learning Through Performance: Project-Based Learning as a Lever for Engaging the Next Generation Science Standards* (pp. 1–40). Palo Alto, CA: Stanford University.
- Dole, S., Bloom, L., & Kowalske, K. (2016). Transforming Pedagogy: Changing perspectives from teacher-centered to learner-centered. *Interdisciplinary Journal of Problem-Based Learning, 10*(1).
- Drake, R. & Oglesby, A. (2020). Humanity is not a thing: Disrupting white supremacy in K-12 social emotional learning. *Journal of Critical Thought and Praxis, 10*(1), Article 5. <https://doi.org/10.31274/jctp.11549>.
- Dresden, K. (2018). Integrate SEL skills to make learning come alive: Students thrive when given opportunities to solve real-world problems. *Principal, 97*(3), 40–41.
- Duke, N. K., Halvorsen, A., Strachan, S. L., Kim, J. & Konstantopoulos, S. (2020). Putting PBL to the test: The impact of project-based learning on second graders' social studies and literacy learning and motivation in low-ses school settings. *American Educational Research Journal, 58*(1), 160-200.
- Dusenbury, L., & Weissberg R. P. (2017). Social emotional learning in elementary school: Preparation for Success. *The Education Digest, 36-43*.
- Durlak, J. A., Dymnicki, A. B., Taylor, R. D., Weissberg, R. P., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development, 82*(1), 405–432.
- empathy. (n.d.). *Merriam-Webster*. Retrieved from <https://www.merriam-webster.com/dictionary/empathy>.
- Evans, C.M. (2019). Student outcomes from high-quality project-based learning: A case study for PBL Works. *National Center for the Improvement of Educational Assessment, 1-85*.
- Fitzgerald, M. S. (2020). Overlapping opportunities for social-emotional and literacy learning in elementary-grade project-based instruction. *American Journal of Education, 126*, 573–601.

- Freire, P. (1970). *Pedagogy of the Oppressed*. The Continuum National Publishing Group.
- Greenberg, M., Domitrovich, C., Weissberg, R., & Durlak, J. (2017). Social and emotional learning as a public health approach to education. *The Future of Children*, 27(1), 13-32.
- Gregory, A., & Fergus, E. (2017). Social and emotional learning and equity in school discipline. *The Future of Children*, 27(1), 117-136.
- Halvorsen, A.-L., Duke, N. K., & Strachan, S. L. (2019). Project-based learning in primary-grade social studies. *Social Education*, 83(1), 58–62.
- Halvorsen, A.-L., Duke, N. K., Brugar, K. A., Black, M. K., Strachan, S. L., Berka, M. B., & Brown, J. M. (2012). Narrowing the achievement gap in second-grade social studies and content area literacy: The promise of a project-based approach. Michigan State University.
- Hecht, M. L., & Shin, Y. J. (2015). Culture and social emotional competencies. In *Handbook of Social and Emotional Learning* (pp. 50–64). essay, Guilford Publications.
- Hernández, L. E., Darling-Hammond, L., Adams, J., & Bradley, K. (with Duncan Grand, D., Roc, M., & Ross, P.). (2019). *Deeper learning networks: Taking student-centered learning and equity to scale*. Palo Alto, CA: Learning Policy Institute.
- Hightower, A. M., Delgado, R. C., Lloyd, S. C., Wittenstein, R., Sellers, K., & Swanson, C. B. (2011). (rep.). *Improving student learning by supporting quality teaching: Key issues, effective strategies* (pp. 1–56). Bethesda, MD: Editorial Projects in Education, Inc.
- Immordino-Yang, M.H., Darling-Hammond, L., & Krone, C. (2018). *The brain basis for integrated social, emotional, and academic development: How emotions and social relationships drive learning*. Washington, DC: Aspen Institute.
- Jagers, R. J., Rivas-Drake, D., & Williams, B. (2019). Transformative social and emotional learning (SEL): Toward SEL in service of educational equity and excellence. *Educational Psychologist*, 54(3), 162–184.
- Jones, S. M., & Kahn, J. (2017). (Issue brief). *The evidence for how we learn: Supporting students' social, emotional, and academic development* (pp. 4–12).
- Jones, S., Barnes, S., Bailey, R., & Doolittle, E. (2017). Promoting social and emotional competencies in elementary school. *The Future of Children*, 27(1), 49-72.
- Kaldi, S., Filippatou, D., & Govaris, C. (2011). Project-based learning in primary schools: effects on pupils' learning and attitudes. *Education 3-13*, 39(1), 35-47.
- Kettler, T. (2016). *Modern curriculum for gifted and advanced academic students*. Waco, TX: Prufrock Press Inc.

- Kingston, S. (2018). Project based learning & student achievement: What does the research tell us? *PBL Evidence Matters*, 1(1), 1-11.
- Klein, A. (2015). *No child left behind: An overview*. Education Week. <https://www.edweek.org/policy-politics/no-child-left-behind-an-overview/2015/04>.
- Kohn, A. (2010). How to create nonreaders: Reflections on motivation, learning, and sharing power. *English Journal*, 100(1).
- Krajcik, J., Schneider, B., Miller, E., Chen, I.-C., Bradford, L., Bartz, K., ... Codere, S. (2021). (tech.). *Assessing the effect of project-based learning on science learning in elementary schools* (pp. 1–70). East Lansing, Michigan: Michigan State University. <https://mlpbl.open3d.science/techreport>.
- Kress, J., Norris, J., Schoenholz, D., Elias, M., & Seigle, P. (2004). Bringing together educational standards and social and emotional learning: Making the case for educators. *American Journal of Education*, 111(1), 68-89.
- McMurrey, A. L. (2014). Willful ignorance? The dropout crisis and United States public education policy. *Journal of At-Risk Issues*, 18(1), 27–34.
- Mehta, J. (2015). Escaping the shadow: A nation at risk and its far-reaching influence. *American Educator*.
- Mentzer, G. A., Czerniak, C. M., & Brooks, L. (2017). An examination of teacher understanding of project based science as a result of participating in an extended professional development program: Implications for implementation. *School Science and Mathematics*, 117(1-2), 76–86. <https://doi.org/10.1111/ssm.12208>
- Mills, G. E., & Gay, L. R. (2019). *Educational research: Competencies for analysis and applications* (12th ed.). Pearson Education, Inc.
- National Center for Education Statistics. (2019). COE - Racial/Ethnic Enrollment in Public Schools. <https://nces.ed.gov/programs/coe/indicator/cge>.
- National Center for Education Statistics. (2021). Spotlight A: Characteristics of Public School Teachers by Race/Ethnicity. https://nces.ed.gov/programs/raceindicators/spotlight_a.asp.
- Passman, R. (2001). Experiences with student-centered teaching and learning in high-stakes assessment environments. *Education*, 122(1), 189.
- Quaglia Institute for School Voice and Aspirations. (2016). *School Voice Report*. Quaglia Institute.

- Onosko, J. (2011). Race to the top leaves children and future citizens behind: The devastating effects of centralization, standardization, and high stakes accountability. *Democracy & Education, 19*(2), 1–11.
- Saldaña, J. (2016). *The Coding Manual for Qualitative Researchers* (3rd ed.). Sage Publications, Inc.
- Schempp, P. G. (1987). *A Study of Lortie's "Apprenticeship-of--Observation" Theory in Physical Education*. University of Oregon.
- Schlechty, P. (1994). "Increasing Student Engagement." Missouri Leadership Academy.
- self-confidence. (n.d.). *Merriam-Webster*. Retrieved from <https://www.merriam-webster.com/dictionary/self-confidence>.
- Simmons, D. (2019). You can't be emotionally intelligent without being culturally responsive: Why family and consumer sciences must employ both to meet the needs of our nation. *Journal of Family & Consumer Sciences, 11*(2).
- Simmons, D. (2021). Why SEL alone isn't enough. *Educational Leadership, 30–34*.
- Sleeter, C., & Stillman, J. (2013). Standardizing knowledge in a multicultural society. In *The Curriculum Studies Reader* (Fourth, pp. 253–268). essay, Routledge.
- Song, R., Spradlin, T. E., & Plucker, J. A. (2009). The advantages and disadvantages of multiage classrooms in the era of NCLB accountability. *Center for Evaluation & Education Policy, 7*(1), 1–8.
- Surr, W., Zeiser, K., Briggs, O., & Kendziora, K. (2018). (rep.). *Learning with others: A study exploring the relationship between collaboration, personalization, and equity*. American Institutes for Research.
- TEAL Center Staff. (2010). *Adult learning theories*. Literacy Information and Communication System. https://lincs.ed.gov/sites/default/files/11_%20TEAL_Adult_Learning_Theory.pdf.
- Thomas, J. W. (2000). A review of research on project-based learning. San Rafael, CA: Autodesk Foundation.
- Tyack, D., & Tobin, W. (1994). The "grammar" of schooling- Why has it been so hard to change? *American Educational Research Journal, 31*(3), 453-479.
- Tyner, A. (2021). How to sell SEL: Parents and the politics of social-emotional learning. Washington D.C.: Thomas B. Fordham Institute.

Weissberg, R., & Cascarino, J. (2013). Academic learning + social-emotional learning=national priority. *The Phi Delta Kappan*, 95(2), 8-13.

Weissberg, R., & O'Brien, M. (2004). What works in school-based social and emotional learning programs for positive youth development. *The Annals of the American Academy of Political and Social Science*, 591, 86-97.

APPENDICES

Appendix A: Informed Consent form for Building Principal

Dear [building principal],

Your students are being invited to participate in a Master’s research project for Elementary Education with an emphasis in Curriculum and Instruction at Missouri State University about **project-based learning and social-emotional learning**. This study is being conducted by **Kaitlin Kilby**.

There are no known risks to the students if families decide to allow their children to participate in this study. There are no costs for the students’ participation in this study. The information gathered will form the basis for future research, improvements in the classrooms, and may be used in scholarly publications. The information collected may benefit you, families, and students directly. The information gathered in this study should provide more general benefits to educators, policymakers, and educational researchers regarding project-based learning and social-emotional learning in the classroom.

The information gathered from the research instrument is confidential. No identifying data will be kept with students’ responses. Individuals from the Institutional Review Board may inspect these records. Should the data be published, it will be used in aggregate; individual participants cannot be identified.

Students’ participation in this study is completely voluntary. Some additional time may be required of students in order to participate, such as during interviews. All data collection will be conducted during normal classroom time.

If you are willing for our students to have the opportunity to participate in the analysis, the participation would be greatly appreciated. By signing this form, you are voluntarily agreeing to allow your students the opportunity to participate in the study.

If you have questions regarding the research, you may contact the researcher: **Kaitlin Kilby** and research advisor, **Dr. Chloe Bolyard**. Contact information is provided below. If you are willing to allow your students to participate in the research, please sign below. Thank you for your time and cooperation – it is greatly appreciated. You may keep this portion of the page.

Kaitlin Kilby
(314) 960-3495
Kek88@live.missouristate.edu

Dr. Chloe Bolyard, Ph.D.
(417) 836-8736
CBolyard@missouristate.edu

Cut at the line, keep top section and return the bottom section

I agree to allow my students to participate in the study regarding project-based learning and social-emotional learning. I understand that student participation is voluntary and their names, my name, and the school’s identifying information will not be associated with participant responses.

Principal’s Signature

Date

Appendix B: Institutional Review Board (IRB) Approval



To:
Chloe Bolyard
Childhood Ed & Fam Studies

RE: Notice of IRB Approval

Submission Type: Renewal

Study #: IRB-FY2022-180

Study Title: What are the effects of a project-based learning instructional framework on elementary students' social-emotional learning?

Decision: Approved

Approval Date: October 5, 2022

Expiration Date: --

This submission has been approved by the Missouri State University Institutional Review Board (IRB). You are required to obtain IRB approval for any changes to any aspect of this study before they can be implemented. Should any adverse event or unanticipated problem involving risks to subjects or others occur it must be reported immediately to the IRB.

This study was reviewed in accordance with federal regulations governing human subjects research, including those found at 45 CFR 46 (Common Rule), 45 CFR 164 (HIPAA), 21 CFR 50 & 56 (FDA), and 40 CFR 26 (EPA), where applicable.

Researchers Associated with this Project:

PI: Chloe Bolyard

Co-PI:

Primary Contact: Kaitlin Kilby

Other Investigators:

Appendix C: Informed Consent for Parent/Guardian

Dear [parent/guardian],

Your child is being invited to participate in a Master's research project for Elementary Education with an emphasis in Curriculum and Instruction at Missouri State University about **project-based learning and social-emotional learning**. This study is being conducted by **Kaitlin Kilby**.

There are no known risks if you decide to allow your child to participate in this study. There are no costs for your child's participation in this study. The information gathered will form the basis for future research, improvements in the classrooms, and may be used in scholarly publications. The information collected may benefit you and your child directly. The information gathered in this study should provide more general benefits to educators, policymakers, and educational researchers regarding project-based learning and social-emotional learning in the classroom.

The information gathered from the research instruments is confidential. Individuals from the Institutional Review Board may inspect these records. Should the data be published, it will be used in aggregate; individual participants cannot be identified.

Your child's participation in this study is completely voluntary. Some additional time may be required of your child in order to participate. All observations will be conducted during normal classroom time. If you are willing for your child to participate in the study, the participation would be greatly appreciated. By signing this form, you and your child are voluntarily agreeing to participate.

If you have questions regarding the research, you may contact the researcher: **Kaitlin Kilby** and research advisor, **Dr. Chloe Bolyard**. Contact information is provided below. If you are willing to have your child participate in the research, **please have both you and your child sign below**. Thank you for your time and cooperation – it is greatly appreciated.

Kaitlin Kilby
(314) 960-3495

Kek88@live.missouristate.edu

Chloe Bolyard, Ph.D.
417-836-8736

CBolyard@missouristate.edu

Cut at the line, keep top section and return the bottom section

I agree to allow my students to participate in the study regarding project-based learning and social-emotional learning. I understand that student participation is voluntary and their names, my name, and the school's identifying information will not be associated with participant responses.

Parent/Guardian Name Printed

Parent/Guardian Signature

Date _____

Child Name Printed

Date

Appendix D: Project Design Rubric and Essential Elements Checklist

PROJECT DESIGN RUBRIC




Page 1

	Lacks Features of Effective PBL <i>The project has one or more of the following problems in each area:</i>	Needs Further Development <i>The project includes some features of effective PBL but has some weaknesses:</i>	Includes Features of Effective PBL <i>The project has the following strengths:</i>
Student Learning Goals: Key Knowledge, Understanding & Success Skills	<ul style="list-style-type: none"> • Student learning goals are not clear and specific; the project is not focused on standards. • The project does not explicitly target, assess, or scaffold the development of success skills. 	<ul style="list-style-type: none"> • The project is focused on standards-derived knowledge and understanding, but it may target too few, too many, or less important goals. • Success skills are targeted, but there may be too many to be adequately taught and assessed. 	<ul style="list-style-type: none"> • The project is focused on teaching students specific and important knowledge, understanding, and skills derived from standards and central to academic subject areas. • Success skills are explicitly targeted to be taught and assessed, such as critical thinking, collaboration, creativity, and project management.
Essential Project Design Element:			
Challenging Problem or Question	<ul style="list-style-type: none"> • The project is not focused on a central problem or question (it may be more like a unit with several tasks); or the problem or question is too easily solved or answered to justify a project. • The central problem or question is not framed by a driving question for the project, or it is seriously flawed, for example: <ul style="list-style-type: none"> - it has a single or simple answer. - it is not engaging to students (it sounds too complex or "academic" like it came from a textbook or appeals only to a teacher). 	<ul style="list-style-type: none"> • The project is focused on a central problem or question, but the level of challenge might be inappropriate for the intended students. • The driving question relates to the project but does not capture its central problem or question (it may be more like a theme). • The driving question meets some of the criteria (in the Includes Features column) for an effective driving question, but lacks others. 	<ul style="list-style-type: none"> • The project is focused on a central problem or question, at the appropriate level of challenge. • The project is framed by a driving question, which is: <ul style="list-style-type: none"> - open-ended; there is more than one possible answer. - understandable and inspiring to students. - aligned with learning goals; to answer it, students will need to gain the intended knowledge, understanding, and skills.
Sustained Inquiry	<ul style="list-style-type: none"> • The "project" is more like an activity or "hands-on" task, rather than an extended process of inquiry. • There is no process for students to generate questions to guide inquiry. 	<ul style="list-style-type: none"> • Inquiry is limited (it may be brief and only occur once or twice in the project; information-gathering is the main task; deeper questions are not asked). • Students generate questions, but while some might be addressed, they are not used to guide inquiry and do not affect the path of the project. 	<ul style="list-style-type: none"> • Inquiry is sustained over time and academically rigorous (students pose questions, gather & interpret data, develop and evaluate solutions or build evidence for answers, and ask further questions). • Inquiry is driven by student-generated questions throughout the project.

Authenticity	<ul style="list-style-type: none"> The project resembles traditional "schoolwork;" it lacks a real-world context, tasks and tools, does not make a real impact on the world or speak to students' personal interests. 	<ul style="list-style-type: none"> The project has some authentic features, but they may be limited or feel contrived. 	<ul style="list-style-type: none"> The project has an authentic context, involves real-world tasks, tools, and quality standards, makes an impact on the world, and/or speaks to students' personal concerns, interests, or identities.
Student Voice & Choice	<ul style="list-style-type: none"> Students are not given opportunities to express their voice and make choices affecting the content or process of the project; it is teacher-directed. (Or) Students are expected to work too much on their own, without adequate guidance from the teacher and/or before they are capable. 	<ul style="list-style-type: none"> Students are given limited opportunities to express their voice and make choices, generally in less important matters (deciding how to divide tasks within a team or which website to use for research). Students work independently from the teacher to some extent, but they could do more on their own. 	<ul style="list-style-type: none"> Students have opportunities to express their voice and make choices on important matters (topics to investigate, questions asked, texts and resources used, people to work with, products to be created, use of time, organization of tasks). Students have opportunities to take significant responsibility and work as independently from the teacher as is appropriate, with guidance.
Reflection	<ul style="list-style-type: none"> Students and the teacher do not engage in reflection about what and how students learn or about the project's design and management. 	<ul style="list-style-type: none"> Students and teachers engage in some reflection during the project and after its culmination, but not regularly or in depth. 	<ul style="list-style-type: none"> Students and teachers engage in thoughtful, comprehensive reflection both during the project and after its culmination, about what and how students learn and the project's design and management.
Critique & Revision	<ul style="list-style-type: none"> Students get only limited or irregular feedback about their products and work-in-progress, and only from teachers, not peers. Students do not know how or are not required to use feedback to revise and improve their work. 	<ul style="list-style-type: none"> Students are provided with opportunities to give and receive feedback about the quality of products and work-in-progress, but they may be unstructured or only occur once. Students look at or listen to feedback about the quality of their work, but do not substantially revise and improve it. 	<ul style="list-style-type: none"> Students are provided with regular, structured opportunities to give and receive feedback about the quality of their products and work-in-progress from peers, teachers, and if appropriate from others beyond the classroom. Students use feedback about their work to revise and improve it.
Public Product	<ul style="list-style-type: none"> Students do not make their work public by presenting it to an audience or offering it to people beyond the classroom. 	<ul style="list-style-type: none"> Student work is made public only to classmates and the teacher. Students present products, but are not asked to explain how they worked and what they learned. 	<ul style="list-style-type: none"> Student work is made public by presenting, displaying, or offering it to people beyond the classroom. Students are asked to explain the reasoning behind choices they made, their inquiry process, how they worked, what they learned, etc.

ESSENTIAL PROJECT DESIGN ELEMENTS CHECKLIST

WHATEVER FORM A PROJECT TAKES, IT MUST MEET THESE CRITERIA TO BE GOLD STANDARD PBL

DOES THE PROJECT MEET THESE CRITERIA?			
KEY KNOWLEDGE, UNDERSTANDING, AND SUCCESS SKILLS The project is focused on teaching students key knowledge and understanding derived from standards, and success skills including critical thinking/problem solving, collaboration, and self-management.			
CHALLENGING PROBLEM OR QUESTION The project is based on a meaningful problem to solve or a question to answer, at the appropriate level of challenge for students, which is operationalized by an open-ended, engaging driving question.			
SUSTAINED INQUIRY The project involves an active, in-depth process over time, in which students generate questions, find and use resources, ask further questions, and develop their own answers.			
AUTHENTICITY The project has a real-world context, uses real-world processes, tools, and quality standards, makes a real impact, and/or is connected to students' own concerns, interests, and identities.			
STUDENT VOICE & CHOICE The project allows students to make some choices about the products they create, how they work, and how they use their time, guided by the teacher and depending on their age and PBL experience.			
REFLECTION The project provides opportunities for students to reflect on what and how they are learning, and on the project's design and implementation.			
CRITIQUE & REVISION The project includes processes for students to give and receive feedback on their work, in order to revise their ideas and products or conduct further inquiry.			
PUBLIC PRODUCT The project requires students to demonstrate what they learn by creating a product that is presented or offered to people beyond the classroom.			

Appendix E: Artifacts

Appendix E-1: Student Brainstorming that Led to the Driving Question.

Driving Questions-Brainstorming

- Making students feel more comfortable/
welcome**
 - needs more lunch choices**
- How can kids get what they need? (Math,
reading)**
- How can students connect with each other?**
- Trash on the property**
- People messing around in the bathroom**
- Hurting other students feelings**
- Kickball at recess**
- People leaving others out**
- Stealing things from others**

TOPIC: Making all students feel welcome :

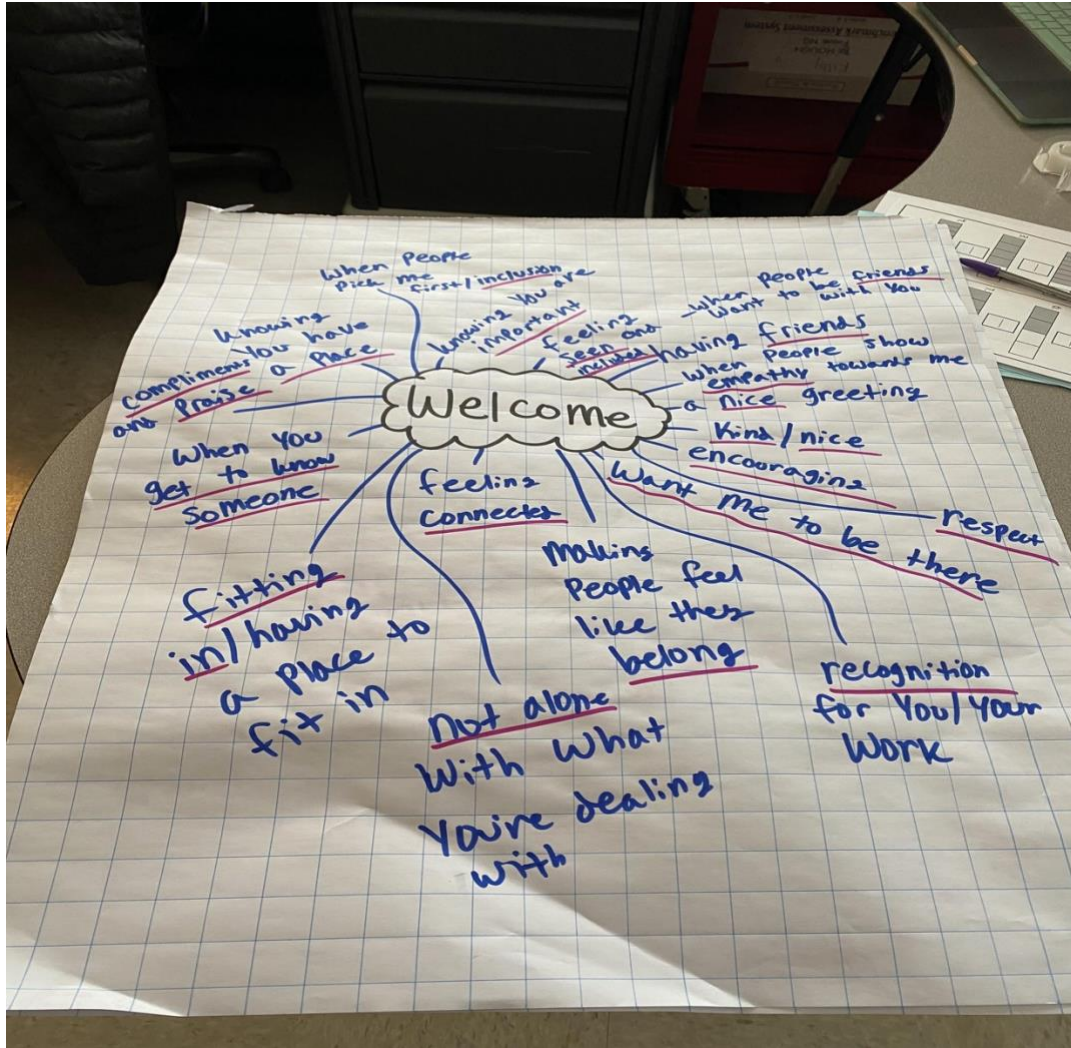
PURPOSE: If students don't feel welcome, then they won't want to be here. If you don't make people feel welcome, parents will get mad and it will lead to a cycle of unhappiness. At school, you can make friends. If you don't make friends, you are not going to feel happy. If you don't feel welcome, parents will hear and they will leave

the school and then students may not be learning. If we don't feel welcome, we can't do our best thinking or learning. When we know who people are and can connect with them, we can play soccer or know them and introduce them to other people.

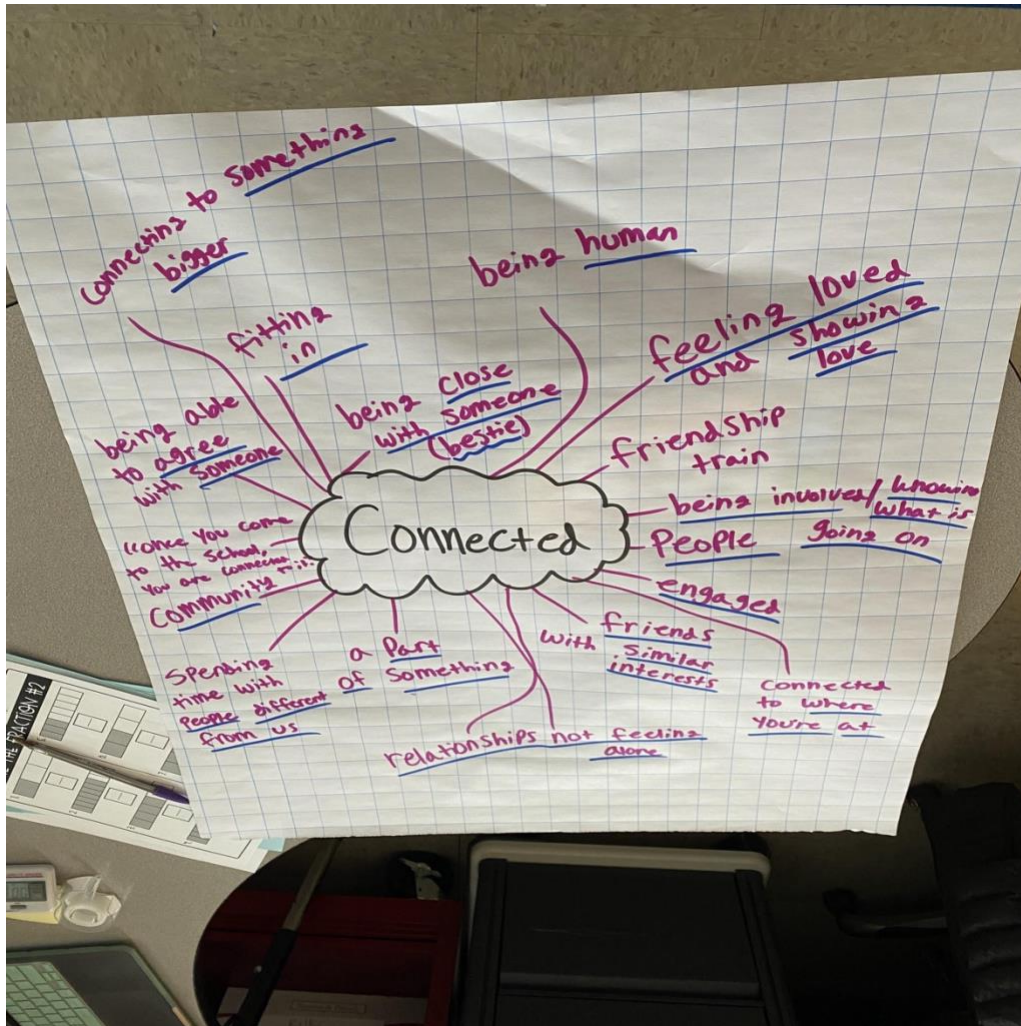
AUDIENCE: Principal, students, district, teachers

PRODUCT: Party for new students; meeting all the teachers; half day family groups; 5th grade buddy or some kind of buddy system; solution on the soccer field; everyone is assigned a buddy at the beginning of the year no matter the grade

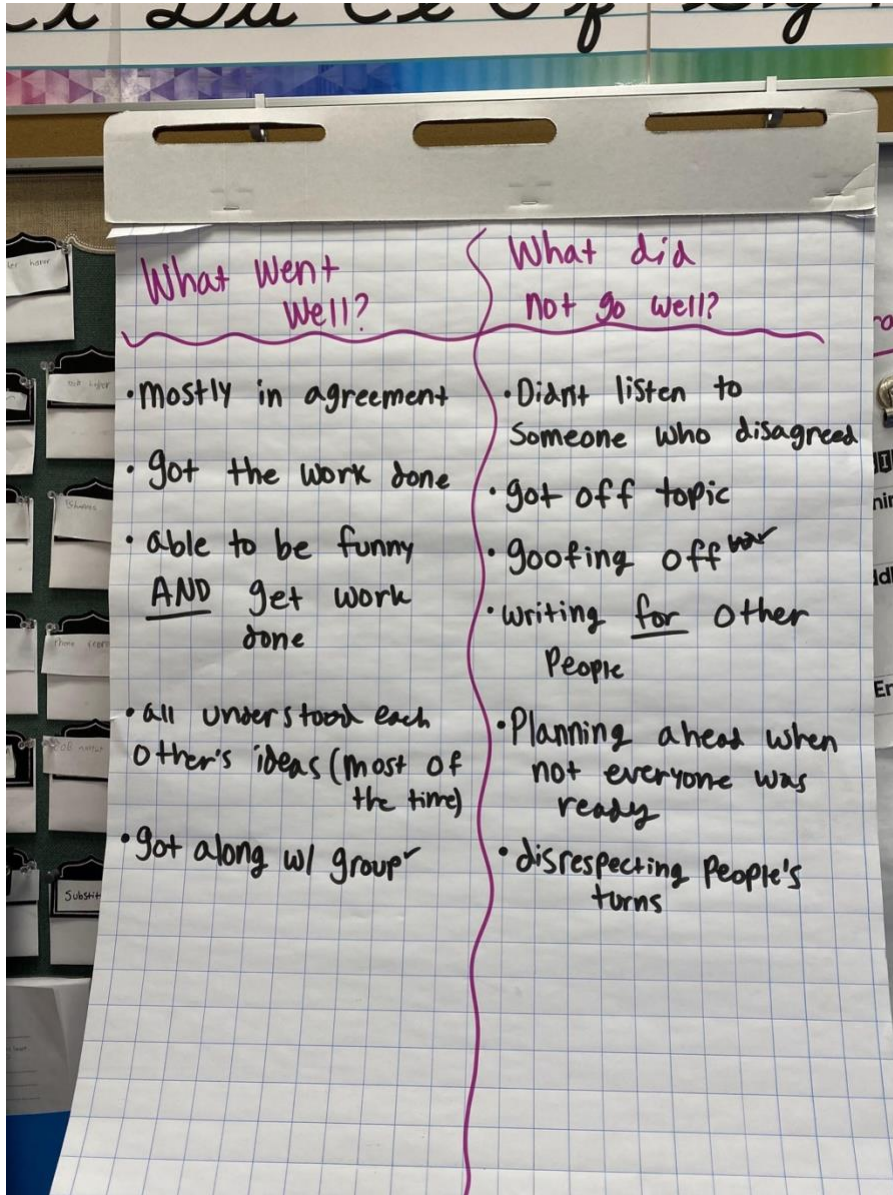
Appendix E-2: Definition Web of "Welcome."



Appendix E-3: Definition Web of Connected.



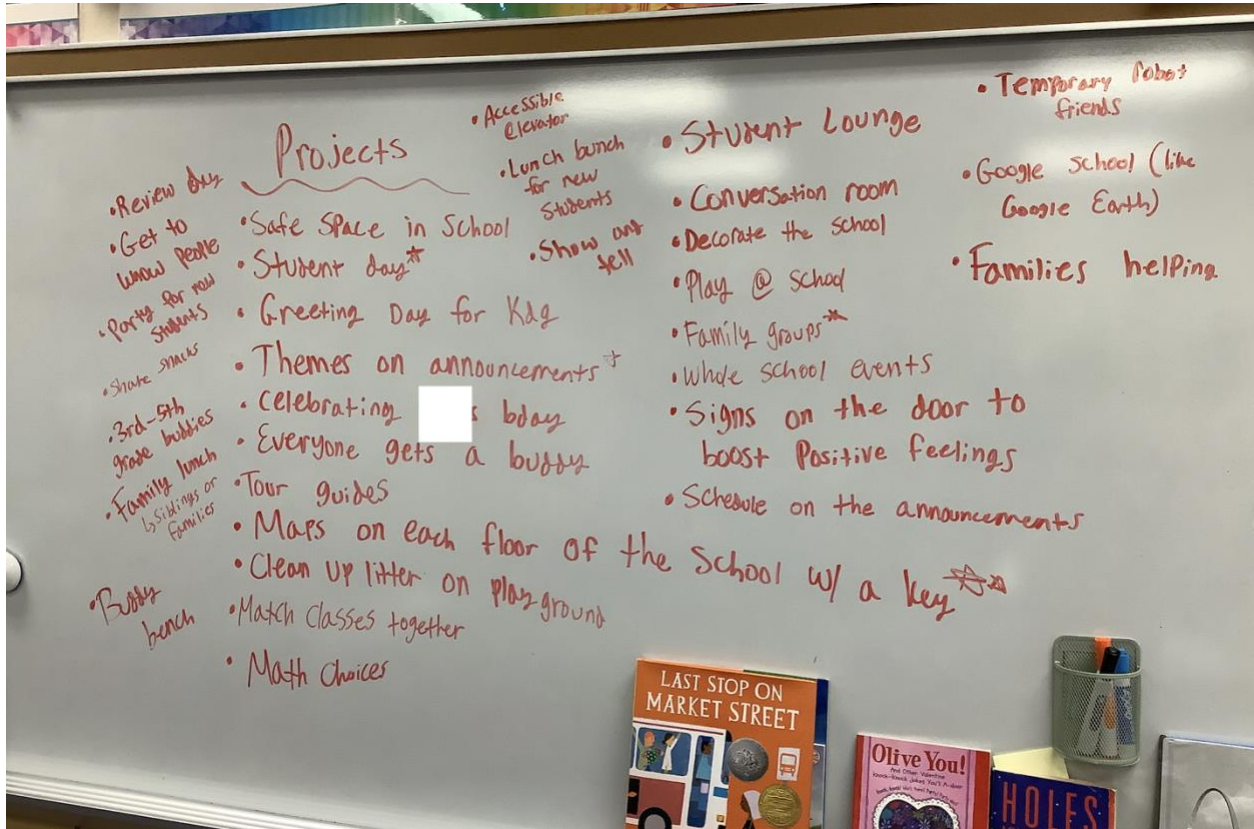
Appendix E-4: Whole Group Reflection.



Appendix E-5: Finalized Driving Question.

Driving Question: How can Miss Kilby's 3rd grade class create ways to help all students feel more welcome and connected at school?

Appendix E-6: Student Project Brainstorming as a Result of the Driving Question.



The Buddy Bench

is a bench where people can go if they don't have someone to play with or something to do. Sit on the bench and someone will come greet you. Tell them your name and see if you want to join. If you want to join them, go have fun and play. That's The Buddy Bench.

Appendix E-8: Student-Created Survey for Kindergarteners.

How do you feel at north Glendale?
Good, ok, fine, or bad? Sad or happy?

Do you feel like you belong at north Glendale?
Yes or no?

If you don't feel like you belong what do you
think would help?

Appendix F: Student Weekly Reflection Page

Name: _____

Date: _____

SEL Weekly Reflection

Directions: Think about and answer the following questions below. Use this page to share your thinking using COMPLETE sentences:

- Write about anything you learned during SEL this week.
- What have you learned about yourself this week?
- What have you learned about other people this week?
- Add anything else you would like about your experience working on this project.

Appendix G: CASEL Capacities for Self-Awareness and Social Awareness and Their Respective Codes

Capacities for Evidence of Self-Awareness Look-Fors	Capacities for Evidence of Social Awareness Look-Fors
<p>Self-awareness is defined as “the abilities to understand one’s own emotions, thoughts, and values and how they influence behavior across contexts.”¹</p> <ul style="list-style-type: none"> ● “Integrating personal and social identities (who I am and who I am with others)” <ul style="list-style-type: none"> ○ Codes <ul style="list-style-type: none"> ■ Self-reflection ■ Introspection ■ Traits (e.g., I am kind, I am funny, I goof off a lot, I am distracted, etc.) ■ Others’ opinions ■ Roles/identifying roles ■ Self-discovery ● “Identifying personal, cultural, and linguistic assets (what I have to contribute)” <ul style="list-style-type: none"> ○ Codes <ul style="list-style-type: none"> ■ Contribution ■ Recognition from self ■ Recognition from others ■ Sharing ideas with others ■ Status of relationships with others ● “Identifying one’s emotions (how I feel)” <ul style="list-style-type: none"> ○ Codes <ul style="list-style-type: none"> ■ Identifying feelings/emotions ■ Emotions 	<p>Social awareness is defined as “the abilities to understand the perspectives of and empathize with others, including those from diverse backgrounds, cultures, and contexts.”¹</p> <ul style="list-style-type: none"> ● “Taking others’ perspectives (listening to others even when disagreement arises)” <ul style="list-style-type: none"> ○ Codes <ul style="list-style-type: none"> ■ Perspective taking ■ Agreement/disagreement ■ Compromise/lack of compromise ■ Listening/evidence of listening ● “Recognizing strengths of others” <ul style="list-style-type: none"> ○ Codes <ul style="list-style-type: none"> ■ Strength in others ■ Recognizing others can help ■ Seeking support ● “Demonstrating empathy and compassion through words and actions” <ul style="list-style-type: none"> ○ Codes <ul style="list-style-type: none"> ■ Demonstrating empathy ■ Empathy ■ Compassion ■ Compassion for others ■ Compassion for self ■ Relationship building ● “Showing concern for the feelings of others” <ul style="list-style-type: none"> ○ Codes <ul style="list-style-type: none"> ■ Concern for others’

¹ CASEL Staff. (2022). *What is the CASEL Framework?* CASEL.

- Feelings
 - Feeling words (happy, sad, frustrated, etc.)
- “Demonstrating honesty and integrity”
 - Codes
 - Honesty/Demonstrating honesty
- “Linking feelings, values, and thoughts (connecting emotions to thinking)”
 - Codes
 - Connecting feelings to thoughts
 - Thinking about emotions
- “Examining prejudices and biases”
 - Codes
 - Bias
 - Recognizing bias
- “Experiencing self-efficacy (self-confidence and self-motivation)”
 - Codes
 - Positive about self
 - Negative about self
 - Experiencing self-efficacy
 - Confidence
 - Pride
 - Success
- “Having a growth mindset (not giving up when it gets hard)”
 - Codes
 - Growth
 - Growth mindset
 - Perseverance
- “Developing interests and a sense of purpose”
 - Codes
 - Sense of purpose
 - Important to self
 - Engagement
 - Evidence of learning
 - Expressing interest in work/learning
- feelings
 - Feelings of others
 - Concern for group
 - Problem-solving
- “Understanding and expressing gratitude (thank you/I am glad this person...)”
 - Codes
 - Gratitude
 - Expressing gratitude
 - Referencing others’ contributions
- “Identifying diverse social norms, including unjust ones (standing up against rules or possibly unjust demands from group members)”
 - Codes
 - Identifying lack of fairness
 - Standing up to others
 - Recognizing social norms
- “Recognizing situational demands and opportunities”
 - Codes
 - Recognizing situational opportunities
 - Recognizing situational demands
- “Understanding the influences of organizations and systems on behavior”
 - Codes
 - Understanding influences of organizations and systems on behavior