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Little classroom on the playground : increasing student academic achievement through integrating the playground into academics

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Abstract

Academic learning has long been relegated to the realm of the classroom. However, academic learning need not be limited to the indoor environment but in spilling out into the playground makes learning more relevant and engaging for students. However, few teachers regularly use the outdoors as part of academic instruction. This raised the question, “what hinders teachers from using the playground?” To better understand the attitudes and perspectives teachers hold about the playground's role in education, surveys were distributed to pre-service and in-service teachers. Most teachers felt that the playground should be used for movement activities like recess and physical education. Teachers stated that they were not sure how to use the playground academically and time constraints hindered them from using the playground. In order to effectively use the playground for academics, the playground infrastructure and school administration needs to be supportive of integrating academics. To support integrating academics, the playgrounds at Fort Portico Elementary School received an asphalt makeover. In creating an effective playground learning environment, the teachers are more likely to see direct academic applications.

Little Classroom on the Playground: Increasing Student Academic Achievement through Integrating the Playground into the Classroom

It was a beautiful sunny day, the birds were singing, there was a slight breeze. No one in their right mind would want to be indoors on a day like this. Inside Mrs. K's kindergarten class, Julian kept glancing out the window while bouncing in his chair. Alexa seemed to be daydreaming. The whole class felt fidgety or inattentive. Mrs. K kept looking at the clock and hoping that the weather held until she got home so she could work in her garden. Outside the

windows lay the wide open playground. No one was there. The tree in the corner beckoned invitingly. The track circle and sprinting lines were waiting for little running feet to use them. The playground, foursquare and circle areas were quiet. Mrs. K was reviewing how to write a lowercase letter a, while using it in some simple sight words.

Mrs. K looked up from her instructions to check on the students' progress. As she wandered around the classroom checking on students work, she noticed some children on the playground. She wandered towards the window to check on these seemingly delinquent kindergarteners when she noticed that an entire class was out there. *Is Ms. R giving her students extra recess time?* she wondered. In between helping students, Mrs. K continued to glance out the window and realized that Ms. R was not giving her children extra playground time. Instead, Ms. R had ropes laid on the ground in the shape of the letter b. The children were walking along the rope letter in the same way that they would write it. When they were done with the letter b, Mrs R had a student who was paying attention draw a letter from a container. Then the students had to decide how many ropes they needed to use to make the letter by holding up their fingers.

Mrs. K was interested but didn't think that her students would be able to stay focused on the learning activity if they were outside. She refocused on her students and dismissed the idea. Julian got up to exchange his dull pencil for a sharp one and noticed the children on the playground. "Mrs. K, why is Ms. R's class on the playground?" he asked. Mrs. K explained that Ms. R took her class out to the playground to practice their letters. "Can we do that?" Julian asked? Mrs. K thought about it and told Julian that, "Real learning happens in the classroom, besides our class is so wiggly I don't think you all would be able to focus outside." Julian accepted the answer and returned to his seat quietly. When the day was over, Mrs. K reflected on what she had told Julian about Ms. R's class. Was that really true? Did real learning happen

in the classroom? Ms. R's class seemed to be learning. They also seemed pretty focused for kindergarteners. At least none of the kindergarteners seemed to be day dreaming. Mrs. K decided she should at least ask Ms. R about what she was doing. Who knows, maybe there is some benefit to learning outside?

How is this an opportunity?

Children spend most of their academic lives sitting in classrooms. Teachers, like Mrs. K, spend a fair amount of their careers in classrooms. Yet, often just beyond the doors to school there is a neglected classroom, the playground. The playground is relegated to the realm of physical education (P.E.) and recess. However, playgrounds have large amounts of space. Sometimes, playgrounds have painted designs on the ground like the 50 states, number lines, grids, or shapes. This outdoor classroom has valuable resources that are underutilized by teachers. While Ms. R used the playground, most teachers keep their academic teaching confined to the classroom. This gives rise to questions, like what keeps teachers from using the playground as an extension of their classroom? What can be done to encourage teachers to use the playground as part of their teaching? And, what benefit is there for using the playground as part of the classroom? Let's get teachers thinking bigger!

Common assumptions regarding education are important to identify as they color perceptions. Children receive an education at school. Academic learning happens inside a classroom. This was Ms. K's assumption about learning. After all, most people have gone to school and most of them sat in a classroom. Playgrounds are for recess and P.E. These assumptions were echoed in the preliminary survey results. In some cases, teachers held these assumptions or knew that the parents or school administration held them. Part of this project will include addressing these assumptions.

Along with assumptions, identifying common definitions is crucial for a mutual understanding of the research. In this context, playground shall be defined as a space in which children may play during recess. It may also be used for P.E. It may contain grass, asphalt, sand, climbing structure(s), etc. A classroom consists of a room or space where traditional instruction takes place. This room traditionally contains desks, books, chalkboard or whiteboard. Traditional or direct instruction involves the teacher disseminating information to his or her pupils. The outdoor classroom is a place outside where instruction or academic activities take place. Academic pertains to the core subjects of math, English language arts, and state mandated subject specific grade content.

Hindrances to using the playground for academics

Playgrounds are a ubiquitous part of school, yet most teachers do not use them aside from P.E. or recess. Before attempting to encourage teachers to use the playground as part of their academic teaching, identifying the obstacles for teachers will inform any potential action. The major hindrances to using the playground are instructional hours, concepts regarding formal education, and standards based learning.

Instructional hours. Teachers must make the most of their instructional hours (Allington, 2002; California Department of Education, 2006; Reyes, 2012; California School Board Association, 2007). Instructional hours dictate how teachers spend classroom time. School districts decide to implement the state recommendations (California Department of Education, 2007). Each grade has a required number of instructional minutes per subject area. The state recommends 40-50 minutes of math instruction 1st-6th grades (California Department of Education, 2007). For 4th -8th grades the recommended time for English language arts instruction is at 2 hours (California Department of Education, 2007). More instructional hours

may be recommended due to the students' performance on placement tests (California Department of Education, 2007). If the district is in program improvement status, more time will be required for English language arts. Good teachers maximize their instructional hours by engaging the students in doing real work not busy work (Allington, 2002). While incorporating the playground into academics is not a misuse of instructional time, it does involve leaving the classroom. Thus, teachers have to get students dismissed, lined up to go out to the playground, and give instructions on the playground, none of which counts for instructional time. A report by the California School Boards Association (2007) recommends maximizing instructional time by minimizing transitions and keeping students on task. A major concern of Principal R.S. Reyes was that the project would impact the instructional time of the teachers (Reyes, September 27, 2012). He suggested that might be easier to work with a kindergarten class as that grade level has the least amount of instructional minutes within the day. The kindergarten teachers would be more receptive to trying something new because of that flexibility.

Formal education takes place in the classroom. The idea that formal education takes place in the classroom with a trained teacher is a common belief and assumption; as schools traditionally have teachers who impart knowledge to students inside a classroom (Callahan, 1964; Farnham-Diggory, 1990; Tokuhama-Espinosa, 2011). However, much of the internal structure of schools and classrooms are based on a systems approach which was developed in response to the United States' need for workers (Callahan, 1962). The systems approach involves scheduling of time, classes rotating, and bells. The staggering of recess and lunch, and the division of the school day, all stem from the systems approach to education (Farnham-Diggory, 1990). This approach was based on the factory model of education. Teachers teach inside the classroom, and when the bell rings, the children go out to play. At the height of the

systems approach, the concept of using the playground, moving beyond the classroom, would not be accepted. Today, teachers are more receptive to the idea of taking students outside. However, there is a stigma to using the outdoor classroom. Public perception of education is that learning happens inside the classroom (Tokuhama-Espinosa, 2011). Survey results regarding why teachers do not use the outside classroom, included worries that administrators and parents might not feel that the students are receiving the same quality of education as they do in the classroom.

Benefits to Using the Playground for Academics

While the educational system is designed in a way to make using the outdoor classroom difficult, it does not necessarily mean that obstacles outweigh the benefits for using the outdoor classroom. These benefits may encourage more teachers to use the outdoor playground as it gives them the grounds to justify their activities. Using the playground as an outdoor classroom can enhance learning, learning outside the classroom changes the instructional approach, and some of the best learning happens outside the program.

Learning is enhanced by moving. Theorists and professionals agree that movement enhances a child's ability to learn (Chaddock, Erickson, Prakash, Kim, Voss, VanPatter, Pontifex, Raine, Konkel, Hillman, Cohen, & Kramer, 2010; Chaddock, Erickson, Prakash, VanPatter, Voss, Pontifex, Raine, Hillman, & Kramer, 2010; Gardner, 1993; Gardner & Hatch, 1989; Goodman, 1964; Gregory & Kaufeldt, 2011). Students spend much of the school day sitting at desks. By encouraging movement the brain is alert and able to learn (Gregory & Kaufeldt, 2012). Goodman (1964) states that schools, “operate as if progressive education had not proved the case for noise and freedom of bodily motion” (p. 34). Gardner's Multiple Intelligences Theory (1993) proposes that people have different intelligence tendencies that

predispose them to understand concepts better through a specific type of intelligences like bodily kinesthetic. In this intelligence, a person learns through movement, manipulating materials, and concrete application (Gardner & Hatch, 1989). Enabling a child to move will enhance his or her ability learn. Two studies on brain development have found that children who are more active and physically fit have better developed brains in the areas for memory and executive function which regulates their ability to focus and filter information (Chaddock, Erickson, Prakash, Kim, et al., 2010; Chaddock, Erickson, Prakash, VanPatter, et al., 2010). While going to the playground for activities will not necessarily make the students' brains develop better, it can add to the amount of time students spend being active which will contribute to their overall brain health.

Learning should not be limited to the traditional direct instruction approach. By diversifying how academic instruction takes place, students are able to better understand how their learning relates to everyday life (Dewey, 2010). As Dewey (2010) wrote:

> The great thing to keep in mind, then, regarding the introduction into the school of various forms of active occupation, is that through them the entire spirit of the school is renewed. It has a chance to affiliate itself with life, to become the child's habitat, where he learns through directed living; instead of being only a place to learn lessons having an abstract and remote reference to some possible living to be done in the future." (p.10)

Students need to see a relationship between school and life. When school has meaning, it becomes more enjoyable. Direct instruction, the teacher disseminating information to students, is just one way of learning. By moving students to the outdoor classroom, there is an opportunity to engage students in large scale experiential, and problem based learning. When students engage in hands on learning, they are more likely to find the material interesting and

engaging (Zahorik, 1996). Dewey (2010) echoes this by stating, “Verbal memory can be trained in committing tasks... but after all, this is somewhat removed and shadowy compared with the training of attention and of judgment that is acquired of having to do things with a real motive behind a real outcome ahead” (p. 8). By bringing the classroom onto the playground, there is an opportunity to diversify instruction to better engage students.

The best learning happens outside the classroom. It is commonly assumed that the traditional classroom is required for education. However, educational experts disagree, instead arguing that students learn even better outside the classroom (Dewey, 2010; Goodman, 1964; Sommer & Becker, 1974; Wilce, 2007). Goodman (1964) advocates getting rid of the school building for some grades and using the city, town, or local area as the classroom, teaching subjects using real subject matter and utilizing the experts in various real fields as teachers. By taking children out of the classroom into an outdoor classroom, Dewey (2010) brings up the point that educators "... introduce into the school something representing the other side of life - occupations which exact personal responsibilities and which train the child with relation to the physical realities of life..." (p.8). Students learn best when learning from experience (Dewey, 2010). In a survey of participants in an outside classroom setting, students and teachers felt that their outdoor learning was more meaningful, permanent, and relevant than what they would have received in a traditional classroom (Sommer & Becker, 1974). By giving students a way to learn in a way that is hands on and experiential, students gain comprehension and are able to move into application rather than just knowledge (Wilce, 2007).

While there may be a neglected outdoor classroom just beyond the classroom, teachers encounter obstacles in instructional time and the idea that instruction should be inside the classroom. However, contrary to the assumption that learning happens in a classroom, learning

is not limited to the classroom. By incorporating the outdoor classroom, students enhance their ability to learn by moving, instruction becomes more experiential, and learning becomes more meaningful.

What is Going on Outside?

While Mrs. K's students may be stuck indoors on a beautiful day, students like Ms. R's class are experiencing learning outdoors through school environments, academic playgrounds, and outdoor schools. Outdoor learning can be promoted in a variety of ways, including through teachers training, charter schools with alternative educational philosophies, playground design, and place-based education.

What Helps Teachers Get Kids Outside?

Schools are focusing on creating an environment conducive to exploration and learning by training teachers on how to take the classroom outside. Organizations within the United Kingdom and the United Nations have been working to implement learning outside of the classroom in the great outdoors. The Council for Learning Outside the Classroom (2012), provides training to teachers on how to integrate the learning into the playground space. This integration creates an outdoor classroom. The trainings build teacher confidence in being able to use the outside classroom effectively to teach the core subjects (Council for Learning Outside the Classroom, 2012). The trainings also encourage the teachers to rethink the outdoor space to use for learning and play. The United Nations Educational, Scientific, and Cultural Organization (UNESCO) has developed a set of modules that teach teachers how to engage their students in learning outside and in fieldwork (Cox, Calder, Fien, Ryan, & Law, 2010). The field works involves the students applying what has been learned inside the classroom to a practical application in the field. The modules address issues that teachers face when trying to take

learning outside by covering approaches to learning outside, planning for learning outside, and risk management (Cox, Calder, Fien, Ryan, & Law, 2010). Like the Council for Learning Outside the Classroom and Unesco, the England's House of Commons' Committee on Children, Schools and Families (2010) also recommends training on outside learning for teachers early in their careers. While the idea of learning outside has caught on overseas, the training for and government sponsorship of outdoor learning has not been widely adopted in the United States.

European Educational Philosophies Embrace the Outdoors

While the United States holds a systems approach towards education, European governments and educational philosophies England's House of Commons' Committee on Children, Schools and Families (2010) has endorsed the idea of education taking place outside of the classroom and recommends providing funding to schools for learning outside. Learning outside the classroom should be available to all students and include visits to off-site learning environments. The off-site learning environments include going to museums, parks or fire stations to learn by experience. This is akin to the idea of place-based education where students are placed in a real world experience where they learn by participating in the community (Promise of Place, n.d.). In Finland, the outdoors are considered an important part of a school day (Hancock, 2011). Not only do students spend more time outdoors in Finland, but one teacher has outdoor math cards that the students use as a scavenger hunt for math class (Hancock, 2011). While traditional public schools in the United States have not embraced the outdoor classroom concept, public charter schools based on alternative educational philosophies like Montessori and Waldorf integrate the natural environment into their classrooms. Montessori believed that "the outdoor environment should be an extension of the classroom" (Chitwood, 2012). Montessori charter schools continue to adhere to the concepts of Montessori, by

integrating gardening as a vital part of a students' development and as part of the science curriculum (Blair, 2011) (Gettysburg Montessori Charter School, n.d.; Maria Montessori Charter Academy, 2012). At Coastal Montessori Charter (n.d.), the students are able to go out to an outdoor deck to complete their course work. Countryside Montessori Charter in Florida, has a developed an outdoor classroom with a pond for studying the environment (Blair, 2011). Some Waldorf charter schools also embrace the outdoors by creating outdoor classrooms. Journey School is a Waldorf charter school which has created five outdoor learning classrooms that are used as part of the spiral environmental literacy curriculum (California Charter Schools Association, 2012). Gardening is a central part of the Waldorf curriculum (Circle of Seasons Charter School, 2010).

Playground Design Sponsors Outdoor Learning

Playgrounds can be designed as outdoor learning environments that sponsor child driven learning as well as teacher driven learning experiences. When children interact with the playground on their own as part of learning, it is child driven. This is in contrast to teacher driven learning where the teacher engages the class in an outdoor learning activity on the playground. Playgrounds are being designed to support learning. This includes playground elements that foster learning like shapes, number lines, and maps being painted on the ground (Peaceful Playgrounds, 2012.). After a school in Louisiana painted a United States map on their playground, students began using it to play games during recess (Peaceful Playgrounds, 2012). Teachers used it during class time to teach lessons on states and regions which enhanced the learning of the students (Peaceful Playgrounds, 2012). Other playgrounds are being designed with a theme in mind that promotes learning. One playground in Connecticut has a science and energy theme with science lessons that utilize the playground to teach concepts like friction and

gravity (Corrigan, 2011). Another playground had a musical theme so that students were able play on drums as part of their play (Corrigan, 2011). This helps students develop awareness of patterns, rhythm, and sound. Other playground themes include ocean, Native American, or literary themes based on children's' classics (Corrigan, 2011). Each one is designed to engage the students' imagination. An open source playground design by the Learning Landscape Network (2012) which is part of Project H Design (2012) which provides plans for a low cost playground using easy to find materials is designed for use in academics. Learning Landscapes (2012) also provides and collects academic games using the playground for every core subject, like math and language arts. Thus far, twenty-seven playgrounds have been built in ten countries including five in the United States.

Place-Based Education Helps Gets Students Outside

Schools that implement place-based education are following the suggestions of Dewey who advocated getting children out of the classroom and into the real world.

> Place-based education (PBE) emphasizes "local heritage, cultures, landscapes, opportunities and experiences, [and uses] these as a foundation for the study of language arts, mathematics, social studies, science and other subjects across the curriculum... through participation in service projects for the local school and/or community" (Promise of Place, n.d., para. 1).

Practically, this takes many different forms but students are learning outside the classroom. In Littleton, New Hampshire, the entire town became the school as students engaged in learning by revitalizing the river district (Sobel, 2004). The students are in charge of planning and changing the exhibits at the museum (Sobel, 2004). The schools also collaborate with local businesses so the students get real world application like having a high school marketing class

take over an internet business to try and increase the revenue stream (Sobel, 2004). The second grade curriculum at Ray School in Hanover, New Hampshire, redesigned their second grade curriculum to use the local forest to teach core academic subjects like math, language arts, and science, even art (Place-based Education Collaborative, 2010). The students learn from the forest while helping it. For students at Lawrence Barnes Elementary School in Vermont, PBE means that they become social scientists of their neighborhood, mapping it, reading about it, exploring it, photographing it, and becoming experts in their neighborhood while learning (Dubel, 2009). PBE takes the students out of the classroom, beyond the playground, and into the community, learning in an authentic way.

Method

Schools traditionally have functioned like Mrs. K's class, children sitting and working indoors. The learning happens inside the classroom. However, outside the classroom, the outdoor classroom, the playground is neglected. The playground is a potential learning site that enhances learning, allows for learning to move beyond direct instruction, and some of the best learning happens outside the classroom. Teacher training, European educational philosophies, playground design, and Place-Based Education are ways that teachers are moving their classrooms outdoors. There are teachers like Ms. R who are taking their classrooms outside, to the playground and beyond. To better understand teachers' attitudes towards using the playground as part of academics, I designed a survey for a California TEACH seminar.

Context

California TEACH is an online teacher preparation program with four regional centers in the state. The Monterey region covers the area from Monterey to the Oregon border and from the coast to Interstate 5. The program also has a handful of international participants. The program is a minimum of four terms and sixteen months. Students work through a spiral curriculum that involves student teaching, observation, and reflection. Students are equipped with a faculty advisor, mentor teacher, iPad, apps, human development poster, and etexts. While the program is online, the Monterey region holds three seminars each term. Seminar attendance is required of all students. Students need to attend one seminar per term. One of the Fall term seminars was held at a California State University Harbor on the central coast. The Harbor campus is located on a large swath of open space with a new library. The seminar was held in the library, in the largest lecture classroom on campus. Typical attendance for seminars at this location is around 100 people. Participants arrived at the library and found a seat in the lecture hall. Handouts are placed at each seat and the participants choose their seats. The Fall seminar topic was Special Education for the General Education Teacher. In attendance at the seminar were faculty, California TEACH students, and students of the university.

Participants and Participant Selection

There were eighty-six California TEACH students in attendance, six CSU Harbor students and eleven faculty. The makeup of student participation was 18% male and 82% female. The participants' ethnicity and cultural background varied widely. Of the eighty-six participants, 59% are White, 19% are Latino, 4% are Asian and Pacific Islander, 1% are Black, 8% are two or more ethnicities, and 8% declined to state. The mean age was thirty-two. These are student teachers and university students with experience ranging from a few weeks in the

classroom to several months. Some of the California TEACH students are intern teachers. The interns are teachers of record in the classroom and spend every day in the classroom teaching. The makeup of the faculty in attendance was 36% male and 63% female. The faculty mean age is sixty. The faculty member grouping at the CSU Harbor seminar consisted of 18% Asian, 9% Hispanic, and 63% White.

I also briefly interviewed a faculty member from California TEACH and a principal at a local elementary school.

Dr. P. K. A long time teacher, principal, and district administrator, Dr. K is a white male. He spent over 20 years as an administrator in the Harbor area in elementary, middle, and high schools. He is currently a faculty member at California TEACH.

Dr. R.R. Dr. R is a male, Latino principal at King's Forest Elementary in King's Oaks, California. Prior to becoming a principal he was a fourth grade teacher. He has been principal at King's Forest for several years. The school has 477 students (Education Data Partnership, 2012). The school is 86.4% Latino or Hispanic, 2.3% Asian, 2.7% Black, 5.2% White, and 3.4% other (Education Data Partnership, 2012). Ninety-one percent of students qualify for free or reduced price meals (Education Data Partnership, 2012). The school has three playgrounds, one for kindergarten, one for first to second grades, and another for third through fifth grades. The school building seems well maintained, but dated. The playgrounds, however, need resurfacing. The playgrounds are mostly asphalt with P.E. centric markings.

Researcher

In order to appropriately address the issue, I need to be aware of what I am bringing to the project both in skills and in biases. I am open and want to fulfill the needs of my stakeholders. I hope that teachers will want to use the playground as part of instructional time

because I feel that my own learning was enhanced by movement. I am biased since I feel that teachers and students are missing out on a great educational opportunity. However, I am aware that teachers are under a great deal of pressure to make sure that their students succeed academically. Thus, the risk of losing academic time while countering an entrenched stereotype of learning may be too much of a risk.

Teachers should be able to take their students outside to learn through movement activities. By extending learning into other environs, students may see that learning happens in many ways. This extension should make learning more relevant to their lives. Having been home schooled, learning was never confined to a time and place. What my siblings and I learned in our schoolwork, infused our play. We played hide and go seek by counting out a times table. Our history lessons became the basis for our pretend play. Learning was part academic and part play.

Survey and Interview Questions

The goal of the survey was to find out how teachers felt about the role of the playground and its role in education. The survey consisted of five questions. The survey questions consisted of basic demographics such as what grades were taught and the participants classroom responsibility (student teacher, intern, other). There were three questions pertaining to the role of the playground. What is the role of playground space in education? Do you use the playground for activities other than P.E.? If yes, what activities? What do you think hinders teachers from using the playground as part of academic learning?

The interviews were largely unstructured as one was unsolicited and the other was part of a meeting to assess a site. However, the interviews followed in much of the same vein as the survey questions.

Procedure

The participants arrived between 8:15 and 8:30. The survey was included with their handouts. There was a complete set of handouts and survey at every seat in the first two thirds of the classroom. The students came in and found a seat with a set of hand-outs. Some students retrieved the handouts and moved to a seat in the back of the classroom. The California TEACH handouts were printed on white paper. The surveys were printed on spring green paper, so they stood out from the handouts. At the beginning of the session, the presenters made an announcement regarding the survey. It was explained that the survey was being passed out on behalf of a Capstone student. There was a brief reminder at the break time and another announcement at the end. The end announcement reminded students to fill out the survey and if they had completed it to pass it to the aisles for collection. The survey was picked up at the end and any left over handout sets were examined for responses. Participation was voluntary. There was no compensation.

Dr. K sought me out after seeing my survey to give me his comments in person. Dr. R. was met with during a site visit in early October. I met him in his office which is inside the main office of the school. After the initial meeting, he gave me a tour of the school's playgrounds.

Data Analysis

The data collected by the surveys was qualitative. Thus, it will be coded and analyzed for emergent themes regarding using the outdoors for academics.

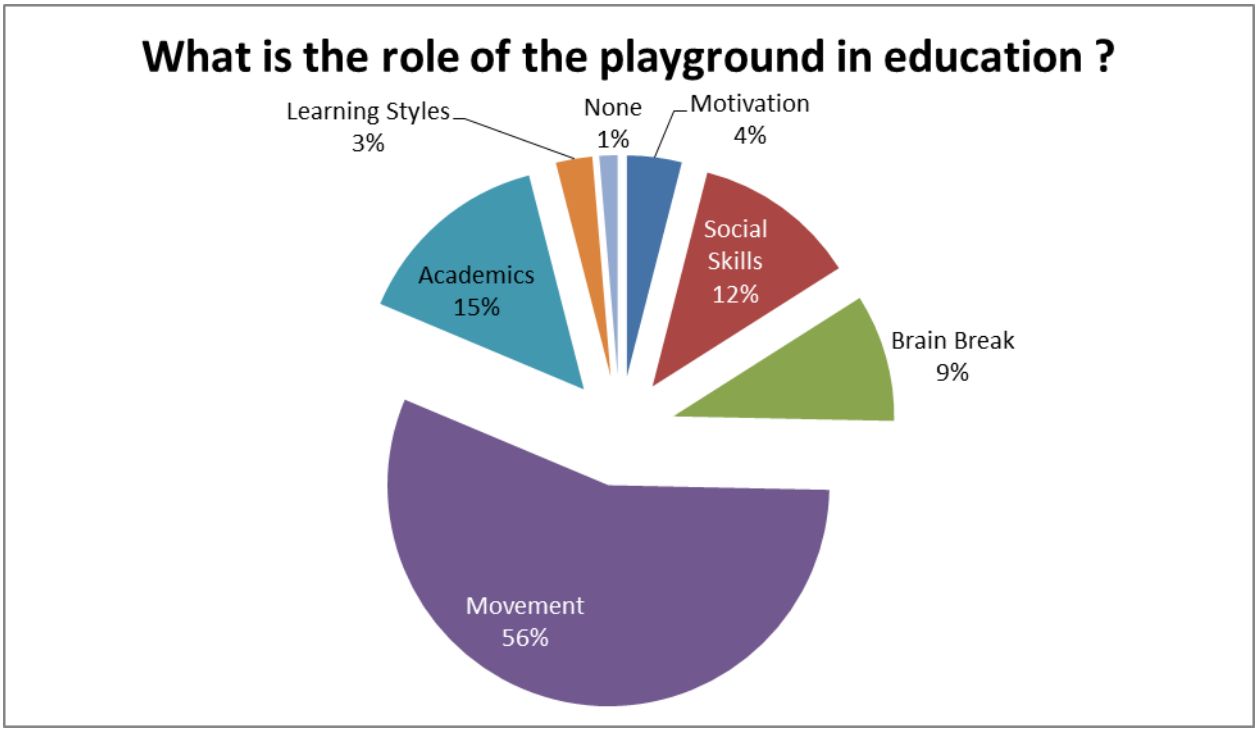
Results

There were thirty-three surveys returned from the California TEACH seminar. Of the surveys, one was from a faculty member, nine were from intern teachers and twenty-three were from student teachers. The grades taught ranged from kindergarten through twelfth grade with

one preschool teacher included. The participants were able to provide multifaceted responses to each question. The responses were coded and divided into subgroups based on common characteristics.

Role of the Playground

The role of the playground in education responses varied widely. Due to the open ended nature of the questions, there were seventy eight different responses from thirty-three participants regarding the role of the playground. Those seventy eight responses were divided into seven categories: movement, brain breaks, social development, motivation, learning styles, educational and no role in education.



Responses that fell into the movement category included P.E., developing motor skills, movement, health, balance, burn off energy, active play, and recess. Fifty-six percent of the seventy-eight responses were movement based. Eighty-eight percent of the thirty-three participants included some form of movement as the role of the playground. Movement

responses made up the largest percentage of the total responses for the role of the playground. Within the movement category, thirty-six percent of respondents characterized the role of the playground as being used for P.E. Recess was the second most common answer at 30%. Eleven percent of movement responses involved the development of gross motor skills. Ms. Garcia, student teaching in a kindergarten class, stated that the role of playground space is "for the younger students to get their wiggles out. It also helps with [the] development of large motor skills" (Personal Communication, October 6, 2012).

Activity and movement was given added importance by some teachers who linked activity to increased student performance. These responses were labeled as brain breaks and involved the students being able to better concentrate and succeed in school as a result of being active. Mrs. Raley is student teaching in a fifth grade class. Mrs. Raley believes that:

> …all students need time playing on the playground in order to succeed in education and in the classroom. If kids don't get out the energy pent up in them and get a chance to explore the outside, [it] will make them be able to focus more and learn more during lessons. (Personal Communication, October 6, 2012)

This idea of students needing activity to help them focus was echoed by fifteen percent of the participants. As Ms. Goings stated, the role of playground space in education is "to get the students active so their minds can get stretched out" (Personal Communication, October 6, 2012). One respondent also saw the role of the playground as a way to release stress. The responses are indicative that some teachers and student teachers are aware of the benefits of movement in increasing student achievement. As discussed earlier, movement helps keep the brain alert and ready to learn, as well as being able improve memory, focus and filtering

(Gregory & Kaufeldt, 2012; Chaddock, Erickson, Prakash, Kim, et al., 2010; Chaddock, Erickson, Prakash, VanPatter, et al., 2010). These teachers were more aware of the effects of movement being a brain break, not just a way to release pent up energy.

The role of playgrounds in education extends beyond activity and brain breaks into the realm of social development. Student social development was cited as the role of playgrounds in education by 12% of participants. Responses included developing social skills, students working together, socializing, socialization, social play, social learning, and creating a social atmosphere. Eighty-three percent of the teachers and student teachers who listed social development taught third grade or below. The other teachers taught fifth grade and ninth to twelfth grades. The development of social skills seems to be more of a concern in the lower grades than in the upper grades.

A few teachers mentioned the role of the playground as a way to motivate students. In this case, teachers used the playground as a reward. Only three participants responded with the idea of using the playground as a reward. The three participants were teaching or student teaching in kindergarten, first, and fourth grades. As Ms. Cameron states, “the playground is used as a reward tool (i.e. if students behave, extra time on the playground is awarded)” (Personal Communication, October 6, 2012).

Two participants mentioned the playground having a role in reaching students with a kinesthetic learning style. This represented 3% of responses and echoed the ideas of Gardner's Multiple Intelligences Theory. Gardner's Multiple Intelligences Theory (1993) includes bodily-kinesthetic learning style where students learn best through movement. Another participant mentioned that the playground helped students experience different learning strategies but failed to elaborate on what strategies were meant. That response was included in the educational

properties of the playground because when teachers understand and use students' intelligences it enhances the learning environment.

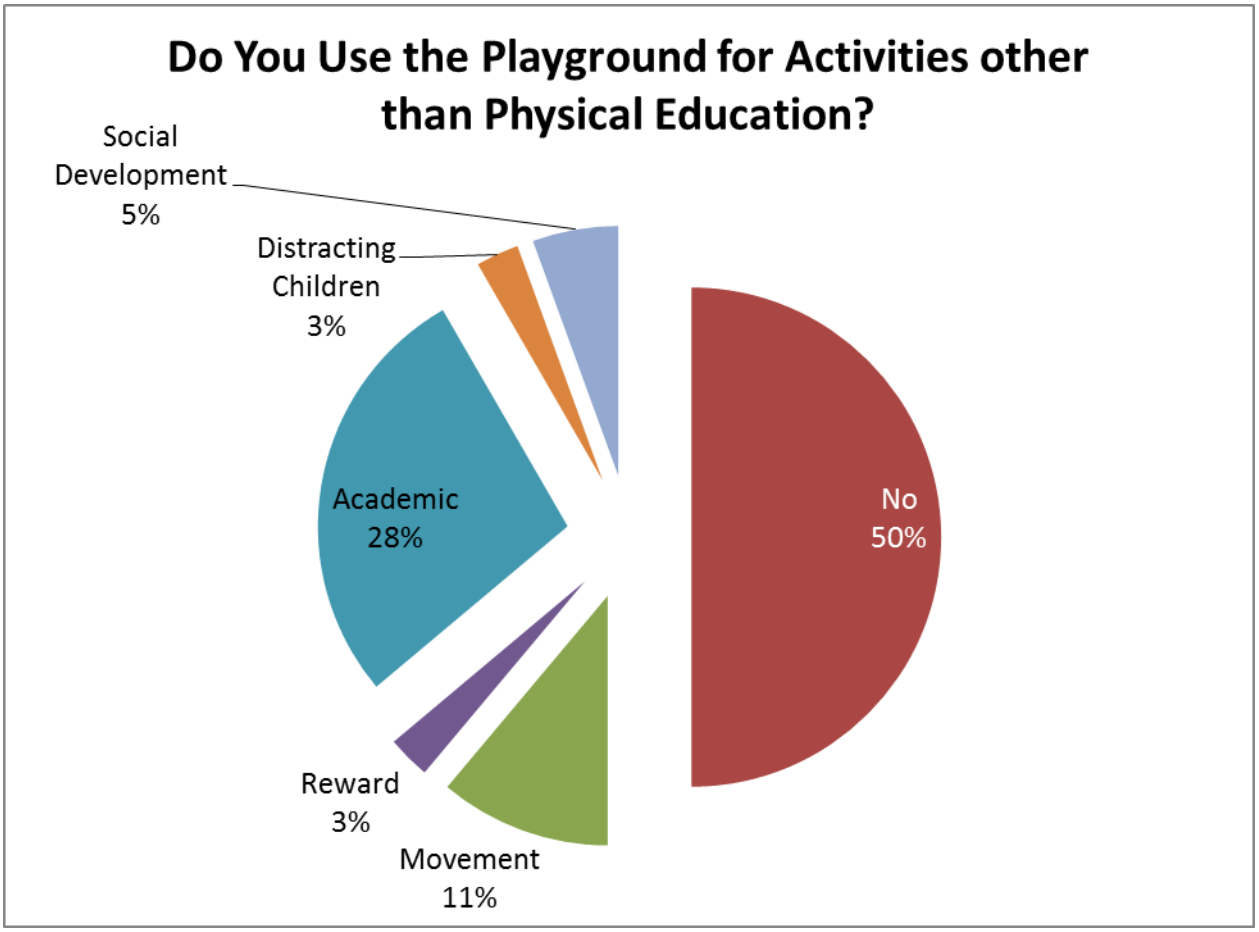
The playground's educational value was recognized in fifteen percent of responses. Those participants gave the role of the playground in education as an academic learning environment. Those responses were intriguing. The majority of responses regarding the playground as a learning environment used it for science and math. Miss Dixon states that "we use outdoor space often with science" (Personal Communication, October 6, 2012). Mrs. Lorenzo sees the playground's role in showing "spatial relationships, [fostering] environmental discussions, [allowing] observations and [using] the world as a laboratory" (Personal Communication, October 6, 2012). Ms. Ryson thought of the playground as an academic extension of her classroom (Personal Communication, October 6, 2012). Mrs. Kelly states that the playground is "a great way to teach a new lesson, [and] that the playground can be used as a manipulative" (Personal Communication, October 6, 2012). These teachers give more details on how they use the playground for academics in their responses to the next question.

There were a few unusual responses. There were two people who included snack time and lunch as part of the role of the playground. One participant felt that the playground's role in education was as a creative outlet. Another participant felt that the playground had no role in education. This concluded the results from the role of the playground.

Playground Used for Other Activities

The playground was not used for activities other than P.E. by fifty-five percent of participants. The rest of the participants had a variety of uses for the playground including academic use, movement, reward, distracting children, developing social skills. While most of

the participants did not consider the role of the playground to include academics, twenty-eight percent listed academic activities for the playground.



For the participants that used the playground for academics, the majority used the playground for science. Fifty-five percent of the participants that used the playground for academic activities used it for science activities. Ms. Dixon uses the playground for activities like, “science experiments, gardening, [and] we have baby ducks (life science)” (Personal Communication, October 6, 2012). Mrs. Avila used the playground for art shadow projects, weather observation and science experiments (Personal Communication, October 6, 2012). Mrs. Webb demonstrates physics concepts on the playground (Personal Communication, October 6, 2012).

Most other subjects were also brought up including math, language arts, social studies, and citizenship. Miss Ryson used the playground for academic extensions like obstacle courses, mapping, etc (Personal Communication, October 6, 2012). Miss Lorenzo shared she has "used it for lessons in geometry [to demonstrate] spatial relationships" (Personal Communication, October 6, 2012). While meeting with Dr. R, he shared that he had used the playground for academics when he was teaching. When Dr. R taught about the Pony Express, he would set up stations around the playground and the students would take turns "riding" (running) the pony express, going from station to station (Personal Communication, September 29, 2012). While Dr. K. did not use the playground for activities when he was teaching, he quickly caught onto the idea and quickly came up with some applications. "Aside from the obvious mathematics applications, all the language skills could be taught and reinforced (listening, speaking, following directions, expression in complete sentences) and science" (Personal Communication, October 6, 2012). Other teachers used the playground for students to read outside, go on nature walks, performing plays, or learning about music (Personal Communication, October 6, 2012).

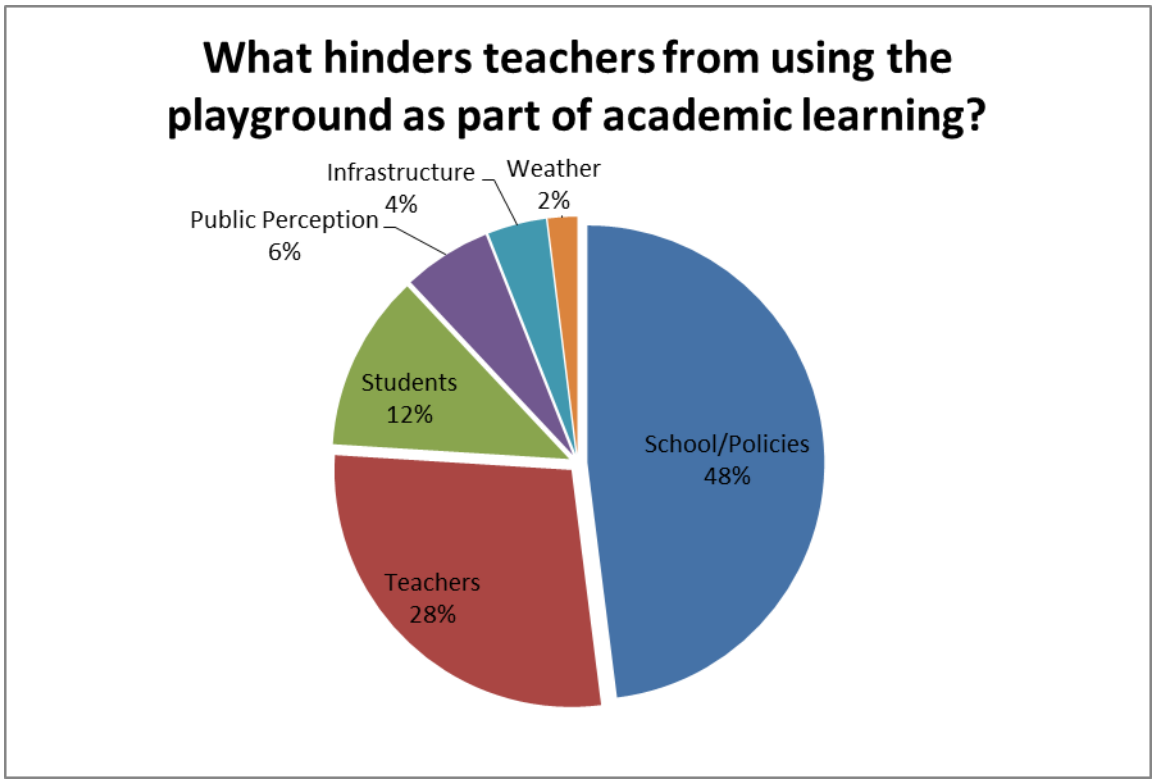
It is apparent that for some teachers, using the playground for academic activities is a reality. Some, like Mrs. March, understands the importance of the outdoors as she states, "outdoor use for academic instruction is important for inspiration, creativity, a break from the norm and encourages thinking outside the box as well as environmental awareness" (Personal Communication, October 6, 2012). This echoes some of the sentiment behind the outdoor learning movement.

The other responses echoed the first question's responses. The role of the playground and the activities both included movement, reward, distraction, and social skills. However, academic activities had some cross over with movement with Mr. Johnson who uses "movement

activities to enhance learning like jumping to count" (Personal Communication, October 6, 2012). Movement or recess came up in eleven percent of the responses. Half of those responses incorporated movement with lessons. One participant listed reward as an activity but did not elaborate. One kindergarten student teacher uses the playground teacher as a distraction. Ms. Garcia explains that, "I've used it to take crying kindergarteners out of class and distract them to take their minds off of missing mom and dad" (Personal Communication, October 6, 2012). Social skills came up twice for six percent of participants listing social skill development as a playground activity. One student teacher mentioned that the playground could be used for team or group activities.

Hindrances to Using the Playground for Academic Learning

The last question regarded what keeps teachers from using playground as an extension of the classroom. The results were eye opening. The hindrances to using the playground were divided into six categories: school and policies, teachers, students, infrastructure, perceptions, and weather. The thirty-three participants generated forty-nine obstacles for using playground. School and policy matters made up forty-eight percent of the participants responses. Twenty-eight percent of the responses indicated the teachers themselves were obstacles. Twelve percent of responses involved students. Six percent addressed public perception of using the playground for academics. Four percent did not have the infrastructure to use. Two percent cited the weather.



School and policy matters were brought up by forty-five percent of participants. This category included responses that included school policy, time constraints, standards based education, and structure. One teacher mentioned fear of being reprimanded by the principal. However, one third of the participants focused on standards based education and instructional minutes. Miss Shirley's response indicates some of the struggle, there is “too much time focused on meeting language arts standards, specifically reading. [I don't have] enough time to transition from classroom to playground, do an activity on the playground ,and transition back to the classroom” (Personal Communication, October 6, 2012). Miss Huddleston brings up another obstacle with “the amount of time students are required to spend in the classroom preparing for the California Star Tests” (Personal Communication, October 6, 2012). Mrs. Wilder explains that there is a lack of “freedom to be creative due to standards based education” (Personal Communication, October 6, 2012). Other teachers bring up the issue of instructional minutes

recommended by the state and required by the districts. Ms. Raley suggests that reason for not using the playground is:

> with the standards that all teachers must cover throughout the year, teachers are often pressured to push though as much curriculum as possible that they lose motivation to creatively teach these concepts that could be taught outside and at the playground. (Personal Communication, October 6, 2012)

Six percent of the participants also added the playground scheduling makes it difficult or impossible to use since other groups are on it. In the case of Mrs. Bhaer, the school structure hampers her ability to go out to the playground. Mrs. Bhaer states, “in my kindergarten there is a structured program in place and dual immersion. There is simply no time for the playground other than recess” (Personal Communication, October 6, 2012).

While standards based education, tests, instructional minutes, and structure make using the playground difficult, the participants identified deficiencies in teachers which add to the difficulty in getting the students onto the playground. Miss Ingalls' comment illustrates how the standards and teachers abilities are tied together. Ingalls states that “teachers are so restricted in lesson planning and so pressed for time to teach standards that I don't think they have time to muddle through the chaos of using the playground as an educational tool” (Personal Communication, October 6, 2012). The mention of chaos was indicative of something more than time and standards that might be holding teachers back from using the playground.

Teachers' knowledge on how to integrate the playground into their teaching and manage their classrooms was brought into question by twenty-four percent of participants. Twelve percent of the participants stated that teachers lacked the knowledge on how to use the

playground effectively as part of academic instruction. The teachers' ability to control and effectively manage their class outdoors was also called into question. As Mrs. Kelly stated, "[the] classroom is more controlled learning environment. The playground can be harder to keep the students attention. Teachers might think that the playground would be hard to keep the students engaged" (Personal Communication, October 6, 2012). Mrs. Lorenzo cites a lack of control on the playground since the students are not confined (Personal Communication, October 6, 2012). Lorenzo goes on to state that "Some teachers are not comfortable in their ability to keep physical control of a class. [They] have a hard time thinking outside the box, [and are] unsure how to teach without a whiteboard or without certain tools" (Personal Communication, October 6, 2012). This information indicates the important work that groups like UNESCO and the Council on Outdoor Learning and Learning Landscapes Network are doing by training teachers and providing resources on how to use the outdoors as part of their teaching. Dr. K brought another perspective stating that teachers tend to "think the outside is someone else's responsibility and there is little leadership in capitalizing outside opportunities" (Personal Communication, October 6, 2012). While teachers hold some responsibility for not using the playground for academics, the students, themselves, make teachers think twice about taking them out to the playground.

Fifteen percent of the participants gave student centered reasons for not using the playground including distractions, loss of focus, and noise. Distractions and loss of focus made up twelve percent of responses. This response was slightly expected since the idea of distractions had come up during early brainstorming sessions about possible obstacles to using the playground. Teacher responses indicated that they were worried that students would be distracted by the outdoor stimulus and lose focus. This would degrade the academic learning

aspect. Noise was mentioned once by Mrs. Goings who stated that “teachers complaining about noise level during class time” would be an obstacle to taking her students outside (Personal Communication, October 6, 2012).

Though most responses centered on schools and policies, teachers, and students, the remainder of the responses focused on infrastructure, public perception, and weather. Infrastructure of playground is a big deal. Nine percent of the responses dealt with the physical playground. In the case of three participants, the playground is not usable. One teacher was at a school which did not have a playground. Miss Ryson's school does not have suitable structure or layout for academic activities (Personal Communication, October 6, 2012). For Mrs. Webb, the issue is safety. She states “our [playground] is dangerous- hasn't been updated in 40 years. We've had two broken bones in the last 2 weeks. Student activity is limited” (Personal Communication, October 6, 2012). The issue of infrastructure may not be surmountable by an individual teacher.

Teachers who want to use the playground for academics may have to overcome the perception that the outdoors is for play or physical education. This was mentioned by nine percent of participants. Miss. Ryson mentions that moving the classroom outdoors means ignoring “the traditional uses that have been modeled for us” (Personal Communication, October 6, 2012). Miss Cameron was worried that her principal would think the students were playing instead of working (Personal Communication, October 6, 2012). Mr. Burns puts it best by stating that “Being outside might give the impression that learning isn't happening which is way lame and not true” (Personal Communication, October 6, 2012). Public perception may be the insidious hindrance because the teachers won't be able to try going outdoors for academic subjects and seeing if they can make it work for their classroom because of the tradition of the

outside being for play. Of all the responses, only one participant mentioned the weather but qualified that by stating she could use the gymnasium or multi-purpose room (Personal Communication, October 6, 2012). This showed a willingness to think beyond the question of using the playground to how she could use other spaces to teach academic subjects.

The results indicate that there are many uses for the playground but only a few participants thought of the playground as a learning environment. While few considered the playground a learning environment, more were using the playground for academic activities. When looking at the obstacles to using the playground as a learning environment, the school and school policies seemed to have the greatest impact on teachers but teachers may be limited by their own lack of knowledge or comfort zones. The survey results provided diverse opinions and perspectives which helped influence the action project.

Description and Justification of Action

Rather than looking at the playground as a place for recess and P.E., the playground can become an outdoor learning environment. Since teachers and students spend most of the their academic lives indoors, any potential action will need to inspire, inform, and involve educators in bringing the classroom to the outdoors. Instead of keeping academics confined to the classroom, bringing academics into the daily lives of students can increase academic performance and make learning more relevant.

Options

In order to bring academics outside, teachers must be willing and know how to use the playground, and the infrastructure should be appropriate. The three options that were identified as a possibilities address the issue of creating an outdoor learning environment by making

changes to the playground environment, working with a teacher to integrate academics into lessons, or training teachers on how to effectively use the playground for academic activities. With all three options, teachers play an integral role as they are the ones to implement the integration in their classrooms. Altering the playground environment to make it easier for teachers to see a direct link between the classroom and academics may increase the numbers of teachers using the area. Students can also use the outdoor classroom during recess or after school in a way that promotes learning. Playground design additions or changes would also indicate a willingness on the part of the principal for playground academia. Creating a playground environment that promotes learning may include creating a garden area, nature trail, painting number lines or a map on asphalt, etc. Working with a teacher to integrate the playground with academics could involve finding connections between the standards being covered and the playground environment or integrating physical education with the current lesson. Integrating academics with P.E. might be another method of bringing academics out onto the playground while making connections across subject matter. Providing training for teachers on using the playground is another option that would target teachers. It would involve the cooperation of the school administration and teachers. An outside organization or person would need to lead the presentation and provide practical tips on integrating California Content Standards or California Common Core Standards with the school's playground. This training would also include methods on how to maximize time, class management strategies, and ways to differentiate the activities for students with individual instruction plan.

Evaluation of Options

To decide which of these options is best, a rubric was created with three criteria. The criteria selected to better evaluate the options included time, reach, and reasonableness. Time

includes the amount of time it will take to prepare and complete the project. The reach of the project addresses how many people this project will affect and influence. A project with a very small sphere of influence would only affect one classroom while one with a broad reach would affect a whole school or district. Reasonableness is synonymous with feasibility in this context. How possible is this project? Can it be completed by the end of the semester? Those questions are critically important in deciding on a project. For an option to be low on the reasonableness scale, it would require more than 3 weeks to arrange and execute. High on the reasonableness scale is a project that is guaranteed to be completed within three weeks. In Table 1.1, the project options are rated using the rubric criteria.

Table 1.1	Time	Reach	Reasonableness
Altering the playground environment to make it more conducive to academics.	High	High	Med
Working with a teacher to integrate the playground into the lesson plan	Medium	Low	High
Provide teacher training for integrating the playground with the classroom.	High	Medium	Low

The first option involves altering the playground environment to make it more conducive to academic applications. Characterizing this project is a high amount of time, a high amount of reach, and a moderate amount of reasonableness. This project will involve lots of time. Approval will be needed from the school administration which may take some time depending on if the principal needs to approve or the school board. Supplies need to be purchased and design elements decided on. Once the preparation has been dispensed with, it will take time to make the changes to the playground. If the changes involve planting vegetation, it may take

several months for the plants to reach a point where the design is evident and useful. However, the project would reach the whole school with the students experiencing the changes during recess, and the teachers would have access to the playground for teaching moments. The project is medially reasonable since it can be done but there is no guarantee that it will be done within the time line. The current weather conditions will also impact the feasibility.

Integrating the playground into a lesson plan with a teacher would require medium amount of time with a low reach and is highly reasonable. There is research involved to make sure that the lesson and outdoor learning activity mesh well. The reach is low because only one teacher and class are actually being affected. There is also no guarantee that the teacher will continue to integrate the lesson plans with the playground learning environment. The project is very reasonable as it can be completed within the time frame allotted and finding a teacher to try it out should not pose too much of a problem. The project is very feasible.

Providing training on how to use the playground effectively as an academic learning environment requires a large amount of time, has a moderate to high amount of reach, and is low on the reasonableness scale. It will take time to secure a venue, find a speaker, and advertise the training to teachers. The reach will vary depending on the response and the quality of the training. If the training is sponsored by a school or district as continuing education hours or as part of Beginning Teacher Support and Assessment (BTSA), the reach will be greater as teachers will have an incentive to attend. A sponsored training will require an experienced educator. Finding an experienced educator or program to come speak makes the reasonableness low since the organizations promoting using the playground as part of the academic experience were not local. This would necessitate finding lodgings and transportation. It might be possible to find a

local educator that uses the playground for academics but one has not yet been identified from the school contacts or surveys.

Evaluation of Evidence

While evaluating playground alterations, lesson integration, and teacher training against the rubric provides for a clear evaluation of options, it is important to weigh the options against the literature and survey results. Altering the playground environment to make it more conducive to academics does not change how instructional hours are spent, but provides an environment that can be used during instructional hours. Since instructional hours dictate the amount of time to be spent on each subject, teachers will still need to account for the time spent going to the playground and returning after an academic activity (California Department of Education, 2007). A redesign of the playground area would be a departure from the systems based approach. A factory based model of education is designed for efficiency (Farnham-Diggory, 1990). An academic playground may raise some eyebrows and be a bit controversial. While students benefit from movement, an academic playground environment will not ensure that the students will be moving (Chaddock, Erickson, Prakash, Kim, et al., 2010; Chaddock, Erickson, Prakash, VanPatter, et al., 2010; Gardner, 1993; Gardner & Hatch, 1989; Goodman, 1964; Gregory & Kaufeldt, 2011). When academics leave the classroom, there is a potential for learning to:

> affiliate itself with life, to become the child's habitat, where he learns through directed living; instead of being only a place to learn lessons having an abstract and remote reference to some possible living to be done in the future. (Dewey, 2010, p. 10)

However, in the context of this project, the students are not inherently engaging in problem based learning or place based education. The playground just invites academics. Within

the survey results, a playground alteration might be welcome. Nine percent of survey participants did not have a useable playground (Personal Communication, October 6, 2012). Other survey participants were not sure how to use the playground for academics. An explicitly academic playground with number lines or map might make the connection to academia more apparent.

Integration of the playground into academic lessons has some of the same issues as altering the playground. Instructional time and systems based education are still issues. Teachers may take students outside for learning but it does not guarantee that students will be engaging in movement to enhance learning. Forty-five percent of the survey respondents listed school policies, standards based education, and time as obstacles. Working with a teacher to integrate the playground into the lesson plans will not necessarily overcome those obstacles. It is possible though to integrate standards into the outdoor lesson plans.

Teacher training will not fully overcome the issues of instructional time or systems based education but a good trainer should be able to give tips on how to better manage them. Training would also address the teachers concerns about classroom management while outdoors as well as how to effectively use a playground regardless of the playground design. The training would not necessarily address the topics of problem based learning, place-based education, or experiential learning but it would cover how make standards cross over to the playground learning environment.

Decision Making

After weighing the options and consulting with the stakeholders, it was decided that the primary action would be playground alterations in order to make academic implications more overt. The alterations would involve painting the asphalt with symbols, grids, and lines that

could be used for academics. The impact of the project made it appealing to both the stakeholders and myself. The school site, Fort Portico, had some academic playground elements painted on the asphalt that were lost during a recent repaving. Painted playground asphalt was what originally drew me to this topic but I was not tied to the project. I was excited though, when it became a possibility when speaking with the stakeholders.

The idea that if it is painted, it will be used, is a large assumption being made about the playground alterations. There is no guarantee that the teachers will use the newly painted designs. In a perfect world, the playground would undergo alterations and a trainer would come in to help teachers know how to use it in their lessons. The assumption is also being made that since the principal is supportive of painting the asphalt, she will also be supportive of teachers using it as part of instructional time. One teacher does do some instructional time outdoors but it is not a regular occurrence. It is also being assumed that the weather will cooperate for finishing the project on time.

The other options are admirable but the assumption is that working with one teacher will have a limited impact. It is also assumed that providing a training would be too time consuming and costly. An assumption has also been made that teachers would not be willing to attend a training provided by a non-professional or without the inducement of an external motivator.

My Position

While the teacher training was also very appealing for its potential reach to a large group of teachers, the feasibility was too low. It was not possible to arrange within the time constraints of the semester. Working with one teacher on integrating the outdoors into lessons impacts a classroom and has the potential to being long lasting. Altering the playground assumes that the students and teachers will use it. The principal might not be as supportive of outdoor academics

as assumed which would severely dampen the scope of the project. A possible negative could be with more obvious academic applications more teachers will use it for instruction. While not an inherent negative, it could lead to parents or others questioning the academic appropriateness of the activities.

Conclusions and Related Outcomes

I feel that the scope and reach of altering the playground environment outweigh the potential downsides. The changes are superficial and provide opportunities for teachers and students to use. This decision reflects the priority to make learning on the playground accessible to the widest audience possible. It also allows students to interact with the playground as a learning environment on their own terms during recess.

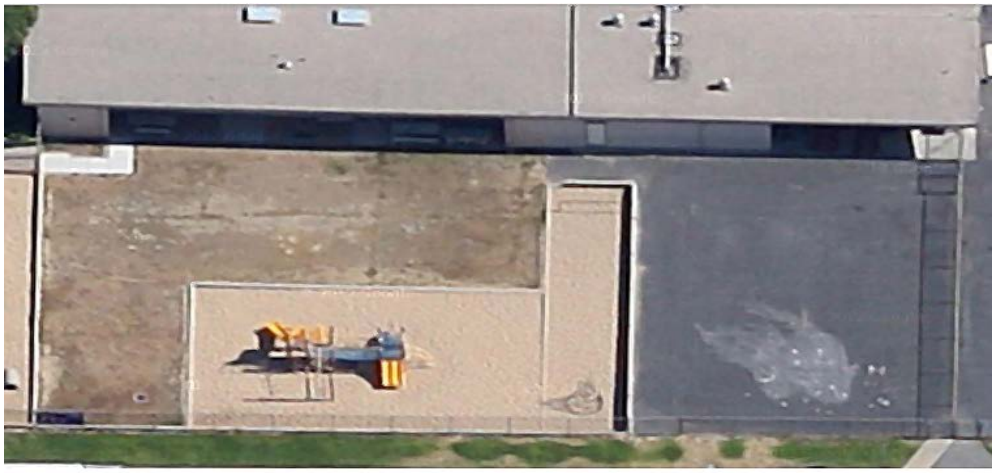
Action Documentation

Fort Portico is a public elementary school in Strand, California. The school serves five hundred sixty students from kindergarten through fifth grade with one preschool class (Education Data Partnership, 2012; Ms. Booker, December 4, 2012, personal communication). The average class size is 26.6 with twenty-two teachers (Education Data Partnership, 2012). Seventy percent of students are English learners (Education Data Partnership, 2012). Ninety-five percent of students are on free or reduced price meals (Education Data Partnership, 2012). The racial and ethnic makeup of the school is eighty-three percent Hispanic or Latino, five percent Black or African American, three percent Filipino, two and a half percent two or more races, and two percent each Asian and White (Education Data Partnership, 2012).

Located on the coast, it covers about roughly ten acres at the top of a high hill. The school site is equipped with three playgrounds, one for kindergarten and preschool students, another for first and second grades, and the last for third through fifth grades. Each playground

has a play structure and asphalt area. The kindergarten and third through fifth grade playground also have large grassy areas. The school also has two gardens, a vegetable garden and coastal habitat garden.

The kindergarten playground is bordered by the street on one side and the kindergarten wing on the other. Two of the three kindergarten playgrounds and the preschool room open directly onto the playground. The grass area and playground structure with a slide, towers, and ladders takes up almost two thirds of the playground. Blank asphalt fills the rest of the space.



(Google Maps, 2012)

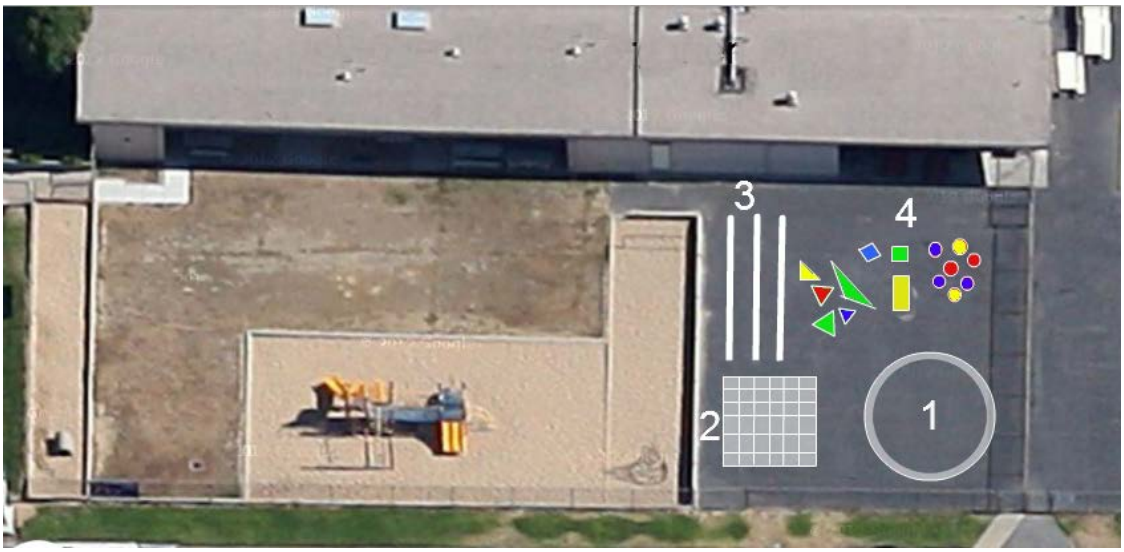
The third through fifth grade (upper elementary) playground has a baseball diamond and soccer field, large play structure, and large asphalt area with a track, sprinting lines, tetherball, kickball diamonds, two and a half basketball courts, hopscotch paths, and foursquare squares. The playground area is on a terraced hillside with a section of forty feet that tapers from one terrace to the other at about a thirty degree angle. The slope is only used as a line up area, there is also some open asphalt by some portable buildings and by the coastal garden.

(Google Maps, 2012)

Proposals

To get school approval on the project, I developed two proposals, one for Kindergarten and one for Upper Elementary. In order to understand the potential of the space, I went to the school and measured the open spaces on the playground. I then weighed the potential options against the sites. Once I knew what was possible, I wrote up the proposals.

The kindergarten playground proposal. Each of the following numbers corresponds to the number on the picture and provides more details on what is included. I included the appropriate California Department of Education standards for each feature.



(Google Maps, 2012)

1. The circle clock will be numbered one through twelve with the top of the clock facing the school. By placing the twelve closest to the school, the students will stand with their backs to the street. Thus, the distraction from the street traffic should be minimized.
    - Math Standards
        - Measurement and Geometry
            - "1.2 Demonstrate an understanding of concepts of time (e.g., morning, afternoon, evening, today, yesterday, tomorrow, week, year) and tools that measure time (e.g., clock, calendar)" (California Department of Education, 1997b).
            - "1.4 Identify the time (to the nearest hour) of everyday events (e.g., lunch time is 12 o'clock; bedtime is 8 o'clock at night)" (California Department of Education, 1997b).

2. The alphabet grid will contain a full upper case alphabet with the letters placed randomly in the grid for letter recognition, spelling practice, and other English Language Arts activities.
    - English Language Arts Standards
        - Analysis, Fluency, and Systematic Vocabulary Development
            - "1.6 Recognize and name all uppercase and lowercase letters of the alphabet" (California Department of Education, 1997a).
            - "1.14 Match all consonant and short-vowel sounds to appropriate letters" (California Department of Education, 1997a).
3. Three lines for classes to line up on at the end of recess. These will be numbered from one to thirty. This is based on the average class size so that the students will be able to each stand on a number.
    - Math Standards
        - Number Sense
            - "1.1 Compare two or more sets of objects (up to ten objects in each group) and identify which set is equal to, more than, or less than the other"(California Department of Education, 1997b).
            - "1.2 Count, recognize, represent, name, and order a number of objects (up to 30)" (California Department of Education, 1997b).
            - "1.3 Know that the larger numbers describe sets with more objects in them than the smaller numbers have" (California Department of Education, 1997b).

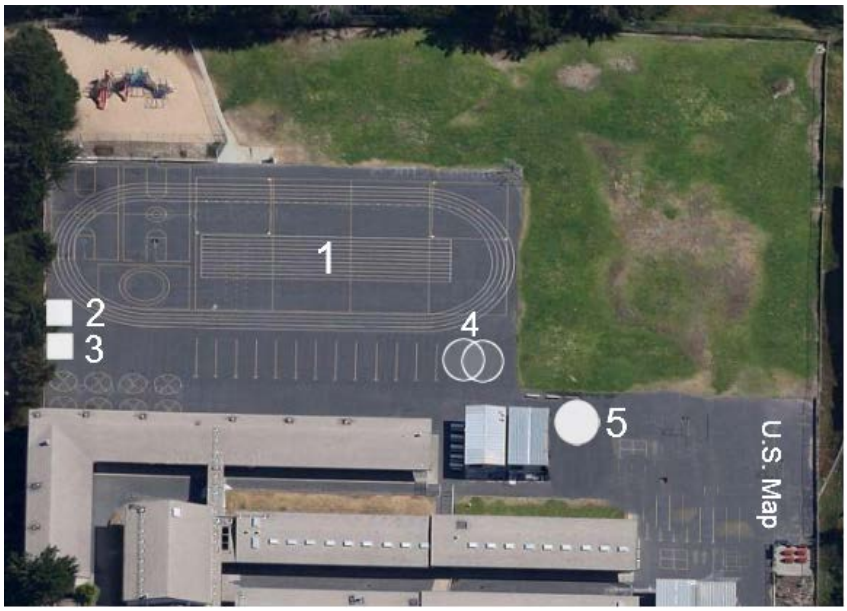
        - "2.1 Use concrete objects to determine the answers to addition and subtraction problems (for two numbers that are each less than 10)" (California Department of Education, 1997b).

4. Triangles, squares, rectangles, and circles of varying size for classification, comparison and increased geometric understanding.

    - Math Standards
        - Algebra and Functions
            - "1.1 Identify, sort, and classify objects by attribute and identify objects that do not belong to a particular group" (e.g., all these balls are green, those are red)" (California Department of Education, 1997b).
        - Measurement and Geometry
            - "1.1 Compare the length, weight, and capacity of objects by making direct comparisons with reference objects (e.g., note which object is shorter, longer, taller, lighter, heavier, or holds more)" (California Department of Education, 1997b).
            - "2.1 Identify and describe common geometric objects (e.g., circle, triangle, square, rectangle, cube, sphere, cone)" (California Department of Education, 1997b).
            - "2.2 Compare familiar plane and solid objects by common attributes (e.g., position, shape, size, roundness, number of corners)" (California Department of Education, 1997b).

The kindergarten playground had two potential distractions. The street could be distracting for class lesson if the students were facing it. An outdoor lesson could be distracting for students inside if the learning designs were too close to the building. To compensate for this, the grid and circle will be oriented so the students will be facing building while using it but far enough away that the noise will be minimized.

Upper Elementary Proposal. The upper elementary playground has a lot of space but much of it is tied up with P.E. applications. The slope which runs horizontally between numbers three and four could be a safety hazard so the academic options take that into account. Each of the numbers and labels on the pictures correspond to the different options below.



(Google Maps, 2012)

1. Number lines provide an opportunity for students to use movement while working through math concepts. The sprint lines at the center of the track will do double duty as number lines by the addition of integers, decimals, and fractions.

2. The multiplication table covers multiplication facts to twelve squared. The minimum size is twelve foot two inch square which allows for a ten inch square for each number but a twelve inch square is better for the three digit numbers. I would recommend a grid about fourteen feet two inches square. This will also allow multiple students to interact with the table at the same time. The map should be placed on a flat surface so students can run on it and interact with it during recess or P.E.

3. A grid graph with a slightly more prominent centered perpendicular set of lines will allow for plotting on a an XY graph as well as line or bar graphs. The grid can be placed on the slope since it is unlikely it would be used for active games. The grid would measure at least ten feet by ten feet with sixty-four squares for plotting.

4. Placing the Venn Diagram on the slope would be best since it's unlikely that students will use it during recess or be running on it during a lesson. The size is variable depending on the location. The minimum size is 25' x 15'.

5. A labyrinth was requested by the fourth and fifth combination class teacher, Mrs. Russell. She thought that the labyrinth would provide a place for students who are having a rough day and need to be focused on a task to calm down. It provides an alternative to sitting at a picnic bench or running laps.

There are two locations that can fit the United States Map from peacefulplaygrounds.com. One location is on the slope and the other is north of the coastal garden between the garden and the basketball court. The space by the garden is preferred as it is a flat surface and students would be able to play on it safely. However, there was a prior map on

the slope, so it is still a possibility. The continental portion of the map is sixteen feet by twenty-seven feet. Each foot measures a hundred miles so students will be able to use the map for geography and mathematics. However, it would be good for it to be in a location where the students can interact with it during breaks.

Changes

The principal at Fort Portico Elementary approved both proposals so I divided the two proposals into two phases. Phase One started on December 11th with the kindergarten playground. The kindergarten teachers were using the cracks on the ground to have students to line up on after recess. The first things painted were two lines and the clock circle without . Joining me on the project were family, friends, and my church also provided volunteers. We laid out the lines five feet apart. Five feet means that when the students line up they can put their arms out and not touch the other classes without stepping off the line. The lines are thirty five feet long which will fit an entire class. The circle was laid out with a twenty foot diameter using chalk and string. Someone stood in the middle with the string at the mid-point. We measured out ten feet and used the string to draw the circumference of the circle. We then added three inches to the ten feet and repeated the procedure. Once the chalk outline was complete, we filled in the circle.

We came back on December 14th to continue painting and to finish the third line. I had cut out shape templates from cardboard. When I arrived at the playground, there were four boys playing on the play structure. I placed the cardboard cutouts on the asphalt and stood back to get an idea of placement. The boys came running over, eyed the shapes, and began jumping on them! I was so excited that the boys were using the shapes like they were supposed to! A little later, I ran into Ms. Booker. She shared that the students were so excited about just the lines and

the circles that they had been playing on them non-stop at recess! That day, we finished the third line and all the shapes. It was very exciting.

December 19th we finished the kindergarten playground. We laid out the alphabet grid and numbered the clock and number lines. While we were working, one of the other kindergarten teachers came out and introduced herself. She shared that the students were very excited about the project. She was very enthusiastic about the project. She felt that the changes made a huge improvement to the outdoor environment.

Kindergarten Playground before Action

Phase Two will consist finishing the upper elementary playground. The principal also requested a trail of the school mascot's prints from the kindergarten wing to the cafeteria and back out to playground. Phase Two will be discussed further under the Next Steps section below.

Strengths and Weakness of Change

By painting the playground the teachers and students have a resource for learning. The students were already interacting with the minimal changes after the first day. The changes will survive until the district repaves. However, in the process of painting, I discovered that most of the teachers were unaware of the changes on the playground. This is concerning. If the teachers do not know about the changes, then they will not use them. While the changes are implicitly academic, if the teachers do not know the purpose of this Capstone Project, then they may not use them. The idea of using the playground as a learning environment takes a shift in thinking. It will be interesting to find out if teachers use the playground once it is finished.

Lessons Learned

While the project unfolded rather smoothly, there were learning experiences along the way, some more humorous than others. Sweeping the cracks in the asphalt keeps allows the paint to actually stick. Be careful where you sit when you are painting. Double check your

supplies; I had bought a straight line thinking it was pre-chalked for marking the ground. It took longer to mark the lines because we ended up manually marked the edge of the lines using classroom chalk. Make sure the color of chalk does not match the color of paint. The first two lines and circle were marked using white chalk and painted using white paint. It became rather difficult to tell where the edge of the paint ended and the chalk began. Because the project began in the Fall semester, weather became an issue. We would paint and pray the rain would hold off or it would rain. I had a panic moment the morning after the first painting day. We had painted, it was cold all night, and it had rained in the night. It was a school day, and I panicked that the paint would still be damp with the students running over it. I raced to the school before the first bell to check. It was dry. It would have saved me the worry if I had tested the paint on asphalt before starting the project.

In the future, it would be beneficial to arrange to have the school yard opened on a weekend so a larger group could work longer and not be racing to finish before dark. It might also enable the community to join in with the project. Also, the sand from the ground tends to drift across the playground which will wear on the paint over time. Finding a community service group to maintain the project would be vital for the continued vibrancy of the project. Because I had principal permission for my project, I assumed all the teachers knew about the project. However, this was not the case. Thankfully, the teachers were fine with it but it could have become an issue.

Next Steps

To continue with this action, Phase Two will start once Phase One, the kindergarten playground, is complete. The first thing on Phase Two will be painting the mascot prints. Then, the Venn diagram, number lines, multiplication table, and graph will be top of the priority list.

The United States map will be the last thing completed as the map template will need to be ordered and financial backing found for the paint. Weather will also be considered.

To continue with the project and further enhance the project, I would like to create a simple handbook for the teachers of the school explaining the Capstone Project. This would include a description of the playground changes and the standards met by them. It would also provide suggestions for activities how it would benefit their students to use the playground. This would help equip the teachers with ideas and information that will aid them in developing lesson plans.

Critical Reflection

Choosing, researching, and executing my Capstone project has helped me better understand my own motivations and goals for my education while learning more about working towards change. I transferred to California State University Monterey Bay (CSUMB) as a Junior in Fall 2010. I spent five semesters as a Liberal Studies student, and I've appreciated every moment. For my minor, I chose Human Development. Both my major and minor have worked together to provide a comprehensive learning experience.

As I explored my Capstone, I began to better understand that while I am passionate about things that effect children, my desire for answers can sustain my interest over a long period of time. I chose playground and academic integration as a topic because it was something that I had been wondering about since I came to CSUMB. The power of inquiry based learning is amazing. Something I have learned while at CSUMB is that sometimes the journey is more important than the destination. In the midst of my project, I did not know what the final action would be. However, I knew that the learning I was doing was just as important as the final action project. It took me a long time to find a site for my project. While it would have been easy to be discouraged, give up, and turn my project into a personal reflection piece, I found that

I had more determination and perseverance than I knew. Even the process of finding a site became a learning experience. In the process of finding a site, I learned about the roles of teachers and principals in creating change.

When it comes to change, this project illustrated how long it can take to change something. While it took me over two months to find a site, it could have taken longer. It is challenging to find people who are willing to look at changing. For people to want to change, I have to cast a clear vision. One of the challenges I encountered was trying to find a balance between finding out what the stakeholders need and what I think can be done. I was able to explain the concept of the project to stakeholders, but I was hesitant to talk to much about the action since I did not want the stakeholders to feel that I was making the decision. However, for teachers and principals, they needed to know what I thought was possible. While principals might be interested in my project, it was up to the teachers to work with me. If the teachers were not interested, my project was not going anywhere. It took two teachers who were interested in the action to bring change to the school. In this case, the change was physical. I believe that the physical change was easier to bring about than a project requiring the teacher's themselves to change. Changing someone's mind or habits requires a great deal of persuasion and a willingness to change on the part of a teacher. In the middle of the school year, teachers hesitate to take on more responsibility or change. Change takes time and energy. I am glad that I stuck with my project and was able to see some form of change. Hopefully, over time, the teachers will see the changes to the playground as something worth changing and adapting to use in their own lessons.

I don't see my education as being the sum of classes but as result of the investment and knowledge of the people involved. The course content and presentation varies between faculty

and each faculty imbues the material with their own perspectives and experiences. It is investment of faculty like Dr. Bynoe, Dr. Lopez, Dr. Thao, Dr. Waltz, Dr. Weisskirch, and Dr. Whang that make my education valuable to my continued professional development.

Liberal Studies Themes

In the thematic context of Liberal Studies, the coursework has already proven valuable to my professional development. Some emergent themes from my coursework are developing educator skills, understanding diversity and becoming a multicultural scholar, utilizing innovative technology, collaborating on issues of social justice, and gaining a broad base of knowledge.

Developing educator. As a developing educator, my experiences in Introduction to Teaching and Learning prepared me on what to expect in a classroom. During the course of class, we discussed how to create a classroom learning environment and basic classroom management strategies. These are skills that I refer back to when working in a classroom. I also became very familiar with the process of credentialing and the different pathways available. In Major Pro-Seminar, the overview of educational theorists and psychology provided a foundation for my Education Manifesto. It was in Major Pro-Seminar where I began to delve into the concept of national educational standards. Because of my work on national educational standards, I was already knowledgeable about the Common Core Standards before they were adopted by California. Through my experiences in the Innovative Approaches to Education, I learned about a variety of educational philosophies such as Waldorf, Montessori, Democratic Schools, Project Based Learning, and experiential learning.

Diversity and multicultural scholar. By taking classes such as Culture and Cultural Diversity, Major Pro-Seminar, Multicultural Literature for Children and Young Adults, and

Social Foundations of Multicultural Education, my understanding of diversity and multicultural education has increased. Gaining an understanding of white privilege and various forms of racism has given me a basis to better understand myself, my students, and their cultures. Through Social Foundations of Multicultural Education, I was better able to understand the changes that have taken place in the United States to provide a more just and equitable education for all. Dr. Waltz' Introduction to Teaching and Learning, made me think about the importance of living in the same community as my students. By living in the same community, I will share concerns and experiences with my students' families and will better understand the culture. In Dr. Lopez's Multicultural Literature for Children and Young Adults, I gained a deeper understanding of students' need for relevant literature that reflects their cultures.

Innovative technological practitioner. During Introduction to Teaching and Learning we learned about different learning models like project based and inquiry based learning models. In the Social Foundations for Multicultural Education class, I created a forty minute presentation that utilized technology through a PowerPoint while integrating hands on learning. While I was in Dr. Waltz's Innovative Approaches to Education, I was able to bring in CalStateTEACH's Dr. Flores. We presented on technology in education demonstrating the educational uses for the iPad, Echo Smart Pen, and animation. We also spoke about the mobile learning. We have been invited back for Spring 2013. One of the best parts of Dr. Waltz's Innovative Approaches to Education was that groups of students were able to individually investigate innovative educational approaches and present them. By becoming experts, the presentation styles reflected the educational approach. Since Waldorf schools eschew technology for young children, my presentation on Waldorf did not use any technology but relied heavily on story telling as communication medium. Through my Capstone Project, I was introduced to the web-based

presentation system Prezi. Each presentation and teaching tool I have been given has a role to play in my future as an educator, and I look forward to using them.

Social justice collaborator. Social justice was the key point for Multicultural Literature for Children and Young Adults and Teaching for Social Change. Both were taught by Dr. Lopez. In Multicultural Literature, I gained a deep understanding of the power of literature to address critical issues like immigration, homosexuality, and sex trafficking in the classroom. However, for social justice to take root in the heart of students, the learning cannot end with the last page of a book. There must be an action taken by the students for there to be social justice. Teaching for Social Change continued that idea, and helped me understand what change means. Change cannot be taken lightly and needs to have a lasting impact. Even our words have impact. To create change, we have to value people more than projects.

Subject Matter Generalist. One of the wonderful things about Liberal Studies is the broadness of the program. Rather than focusing on one subject area like science, I was able to take science, art, music, and history classes. While I definitely favor certain subject areas, it was wonderful to be able to interact with other majors. I especially enjoyed drawing connections between subject areas.

Future Plans

I will be attending CalStateTEACH beginning in Spring 2013. This is the first step in becoming a public school teacher. However, as part of becoming a professional, I need to constantly be expanding my knowledge and digging deeper. This means watching current trends in education as well as governmental policies. I need to know what will affect my students at school and in the community. I want to be the best educator I can be which will require me to continue to seek out new challenges and not be satisfied with the status quo. I would eventually

like to get my Masters of Education. I feel that it is important to be a life-long learner and demonstrate to my students the importance of ongoing learning. I look forward to continuing my work integrating the playground and classroom through further research and use in my own classroom.

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