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Outdoor Classroom/Natural Playground Space School Improvement Project

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Outdoor Classroom/Natural Playground Space

School Improvement Project

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A School Improvement Project Presented

In Partial Fulfillment of the Requirements

For the Degree of Master of Early Childhood Education

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Abstract

Allowing students to have increased outside playtime in nature positively impacts the students physical, emotional, cognitive, and social development. This school improvement project establishes a plan for creating an additional outside play space and outdoor classroom to increase play time while learning in nature.

Keywords: nature, play, preschool, outside

Introduction

When thinking of a classroom environment, the outdoor space is often overlooked, yet there are many benefits for young children who spend quality time in an outdoor learning environment. These benefits include improved academics, enhanced physical and mental health, and an appreciation and care for the environment. The best-known associations and agencies that support early childhood education promote outdoor play.

“Professional organizations like the National Association for the Education of Young Children, the Associations for Childhood Education International, the International Play Association, and the more recently formed US Play Coalition, Children in Nature Network, and the Association for the Study of Play, encourage whole-child development approaches that include free play and outdoor exploration” (Frost & Sutterby, 2017, p. 4).

Daily interactions with natural play spaces and playgrounds allow children to obtain more vigorous activity levels (Barton et al., 2015). The additional outside playtime will help students naturally improve their fine and gross motor abilities, as well as expand their creativeness, ability to experiment, and persevere through problem solving with objects and their peers (Bailie, 2016).

Due to lifestyle changes such as increased screen time, and decreased trust in strangers, parents are not allowing children (ages 3-12 years old) to play freely outside (Schwarzfischer et al., 2020). Social skills, creativity levels and perseverance to accomplish a goal have diminished because of the lack of time and ability to freely explore outside and learn. (Li et al., 2016). With the COVID-19 pandemic, teachers have been encouraged to be outside as much as possible for learning, but they cannot have their classes in an outside space at the same time as the other

classes due to potential quarantine requirements if students encounter someone who tests positive for COVID-19.

This paper details a school improvement project that would add an outdoor classroom and natural playground space for a rural public school district in west central Minnesota. The space would allow preschoolers to have additional time and space to play and explore in nature. The planned outdoor space would be next to an existing playground connected to a school building for early childhood preschool, ECFE, and Head Start programming within the school district. Most of the current playground surface space is cement, and playground turf or fake grass, while a small portion of the playground is a grassy area with a sandbox. The school building has a large grassy area and many evergreen trees. If this area were fenced in, the space could be used to expand access to outside learning, so that two classes could be outside learning and exploring in separate spaces at the same time.

This school improvement project will include a plan to raise funds and donations, a drawing of the additional space, photos of areas within the space, projected expenses, a time study, and a sample donation letter. The literature review will inform the plan through an examination of published research on structured and non-structured outside play. The projected implementation of the school improvement project is the fall of 2021 and will ultimately result in an outdoor play space that facilitates learning for young children.

Literature Review

The purpose of the literature review is to examine current research about outside play time for preschoolers and discover the benefits and barriers for students. The literature review begins by highlighting an outdoor classroom and natural play space, then moves into the positives and negatives to outside play for students. Learning through play, academics, health,

physical activity, social-emotional growth, and forming a love for nature are highlighted. The review concludes with research on why outside play space should be prioritized for preschool aged students.

Outdoor Play

A benefit to having a large natural play space is the ability for students to have more room to run freely. “Both types of play areas (a structured playground and a natural outdoor play space) support gross motor development, but natural play areas offer moveable, ever-changing physical problems for children to solve while engaging them cognitively, socially, and emotionally” (Larimore, 2019, p.73). Physical play allows students to discover their physical abilities, make sense of their bodies, and build muscle, quickness, nimbleness, stability, and flexibility (Loebach, & Cox, 2020).

Bringing outside learning into the school day for children does not require nature experts or large amounts of money. Outside natural play spaces can be created by allowing students to safely watch and interact with nature. Strategic planning by educators to incorporate learning goals can happen amongst logs to sit, safe areas to explore and access to experimenting with different varieties of natural materials (Eick et al., 2013). A quality nature area has a variety of natural loose parts found in nature such as sticks, logs, stumps, rocks, mud, sand, grass, wood chips, and small cement blocks. It also includes some man-made items such as shovels, picnic tables, benches, bowls, cups, pans, a small stage, a small shelter, and a rain barrel (Larimore, 2019).

An important part of the natural play area is space for students to run, walk, dig, skip, jump, sit, balance, tumble, carry materials of varying weights and navigate uneven surfaces (Sobel, et al., 2016). “The play area should have a general look and feel of a true natural space

rather than a manicured park” (Larimore, 2019, p.79). Trees, bushes, landscape material, paths and a garden can all be a part of the natural play space.

Play, including outside play, is crucial in the physical, mental, social, and emotional development of students. “During early childhood, major parts of development occur, and play improves and accelerates that process” (Lam, 2018, p.80). Outside play allows students to enhance natural body growth, boost daily life, and improve academic learning (White, 2012). Experts talk about play, claiming its priority in learning however, real data and studies show a consistent decline in the amount of time children play outside (White, 2012).

Fresh air and change of scenery often help individuals relax and provide clarity. It is common for children to be in school locations for long periods of time due to parents’ extended work hours, so it is important to give them many opportunities to explore outside while in the preschool setting (Ebbeck et. al., 2019). It is beneficial to have a natural play space and a commercial play space for preschool students to enhance multiple skills. Playground equipment is not the same as having space and freedom to feel nature’s textures and engage the whole body in play (Ebbeck et. al., 2019). Running freely and rolling down hills can be the break students need during the academic day. “Outdoor play supports the development of sensory integration as children experience and navigate different terrains, for example unpaved paths, sand, mud, grass, slopes and other textures found in environmental settings” (Ebbeck et al., 2019, p.266).

Outdoor Play and Cognitive Growth

Outside nature play can allow students freedom and space to safely explore and learn. The fence is needed as a boundary but the loose nature parts and play area can allow for academic growth (Larimore, 2019).

“The skills developed during exploratory play, such as sensory observation

and understanding of cause-and-effect relationships, are key to cognitive development, they can stimulate creative thinking, spatial reasoning, and problem solving, and are also considered central to math and science learning” (Loebach, & Cox, 2020, p.20).

Teachers use observations, checklists, project samples, and assessment tools for preschool aged students, rather than grades and test scores. Cognitive growth from regularly playing in a natural play space shows increasing skills in observing, focusing, exploring, collecting, categorizing, testing, and creating (Sobel, et al., 2016). Playing in nature consistently improves cognitive domains in creativity, imagination, and dramatic play for children (Dankiw et al., 2020).

Largo-Wight et al. (2018) observed two kindergarten teachers and their classrooms as they taught a language lesson outside (treatment condition) or inside (control condition) for six weeks. The observers were watching for students being off task in a minute and teacher redirections in a minute. A timer alerted the observers when to collect tally marks for each outcome. Students also completed an exit ticket after each writing task filling in a face scale of their feelings from the writing lesson. They found that teaching the language lesson outside brought less distractions and behavior corrections compared to teaching inside. (Largo-Wight et al., 2018).

Another study conducted by Elliot and Kruskopf (2017) observed two staff and twenty-two kindergarten students who spent half a day learning outside for an entire school year. Elliot documented the process, working closely as a support team that included the early childhood educator, primary teacher, and principal. The outcome was a close-knit class that felt like family, and the students were able to accomplish learning goals while engaging with nature.

“The children’s abilities to notice, question, listen, share and grow” were documented as areas of specific academic growth from nature play (Elliot & Krusekopf, 2017, p. 385).

Research by Seagraves (2021) highlighted the academic benefits of a class garden by showing growth in language and literacy through rich conversations. Academic growth in math transpired through measurements, addition, and making comparisons (Seagraves, 2021).

Health Benefits of Outdoor Play

Results are mixed on whether increasing outside play has specific health benefits. When thinking of outdoor play, physical activity often comes to mind, and with that the idea of exercising and combatting obesity. However, there are studies that show increasing outside playtime does not necessarily protect against obesity. Often outside play includes sitting in a sandbox, or drawing with chalk on cement, rather than physically moving and running (Schwarzfischer et al., 2020).

Dankiw and colleagues (2020) used seven databases to find 2927 articles with criteria to show whether outside play is beneficial to students’ health. After an elimination process, it was narrowed down to sixteen articles with the age range of the children being 2-12 years of age. “The findings suggests that nature play may have a positive impact on a range of children’s health and developmental outcomes—specifically, physical activity, health-related fitness, motor skill, cognitive learning, social and emotional development” (Dankiw et al., 2020, p. 12). The evidence is not overwhelming though, and an explanation could be that young children are still developing their skills; therefore, the intensity of their physical play is not as consistent as older students (Schwarzfischer et al., 2020).

Alhassan, Sirard, and Robinson (2011) tested whether outside play improved physical activity in preschoolers. The researchers were particularly interested in outcomes for Latino

students. In their study, one group of children could go outside two times each day while the other group only went out one time a day. The students wore accelerometers and the movements for each student were tracked. After analysis, researchers found the outdoor free play did not increase physical activity. The researchers hypothesized that perhaps the increased outside play at school meant outside play was no longer a priority at home; therefore, there was no additional physical play added to the child's day.

Outdoor health may benefit physical health beyond concerns surrounding obesity; children's immune systems may be strengthened when their bodies are exposed to and fend off bacteria outside. Research conducted by Sobel et al., (2016) evaluated the relationship between autoimmune disorders and outside play. Anecdotal evidence shows playing in the dirt, interacting with bugs and plants through nature allows the immune system to do its job as a protector. The "hygiene hypothesis" suggests there is an increase in autoimmune disorders due to children not playing outside in the dirt as much and being exposed to natural bacteria. Therefore, the immune systems are weak and allow illnesses to take over due to the lack of outside play and exploration. (Sobel et al., 2016). The National Resource Center for Health and Safety in Childcare and Early Education (2018) highlights communicable viruses are less intense in fresh air than enclosed air. Children need vitamin D to help boost their immune system, help with sleep, and bone development (McCarthy, 2018).

Outdoor Play and Physical Activity

Students aged 3-6 years old should have 60-90 minutes of outside play per an 8-hour period (National Resource Center for Health and Safety in Childcare and Early Education, 2018). A study by Ernst (2012), assessed licensed childcare providers on the quantity of unstructured outside play for 3-5-year-olds in a childcare setting and specifically nature play through

questionnaires. An analysis of responses revealed most outdoor playtime at the childcare settings could not be considered nature play (Ernst, 2012). A majority of the outside play time was unstructured and provided on a playground setting and half of the providers scheduled less than 60 minutes of outside playtime in their daily schedule. As a result, it was determined that the biggest needs were access to nature areas and increased time spent in nature play (Ernst, 2012).

Similarly, a study by Ebbeck et al. (2019), surveyed over 1,000 early childhood educators to examine the importance of outside playtime and determine why children were not getting enough outdoor playtime in preschool and childcare settings. Following the analysis of 432 questionnaires, the researcher concluded that some children are in the setting for nine or more hours a day and play outside for an hour or less of that total time frame (Ebbeck et al., 2019).

Byrd-Williams et al. (2019) wanted to determine what was happening in early childhood education centers statewide in Texas, regarding physical activity and screen time. A 38-question physical activity survey was created and sent to 6568 participants, with a 12.6% participation rate. Researchers found that 1/3 of the centers meet less than four indicators of a quality outdoor play area for their preschoolers, with only one center meeting criteria for all twelve indicators. “Improving outdoor settings by creating environments with nature, vegetation, pathways, and play and learning settings may increase child physical activity levels” (Byrd-Williams et al., 2019, p.8). To encourage improved outdoor learning environments in the educational setting, licensing agencies could increase standards and government could contribute funds to inspire and prioritize physical activity (Byrd-Williams et al., 2019).

Schwarzfischer et al. (2020) examined the time preschool-aged children sat sedentary in front of screens versus their time spent outside. To accomplish this, they collected

anthropometric measurements of 526 children confirming that adverse consequences of screen time are consistent in youth (Schwarzfischer et al., 2020). The average amount of time children aged 3-6 spent on screens each day was 1.33 hours, versus the 2.58 hours a day on average they spent playing outside. However, this was self-reported data from parents, so may not have been accurate. Results revealed the risk of obesity was twice as high in children who spent an extra hour of screen time each day (Schwarzfischer et al., 2020). “Playing video games for several hours a day is also a risk to children’s physical and emotional health. Integrated whole child approaches, indoor and outdoor playful learning, built and natural playgrounds, and hands-on projects must keep pointing the way to healthy and happy child development” (Frost, & Sutterby, 2017, p. 84). Therefore, it is important to introduce playing outside at a young age and making it a regular habit to combat sedentary activity inside.

Barton et al. (2015) wanted to determine if playground sports, or nature-based playtime was more effective for increasing physical activity in children. They conducted a weeklong study of 52 students, checking their weight and measurements before and after the study began. The researchers had each child participate in a daily relay race and then observed them each day during recess. The playground sports produced greater results in physical activity compared to the nature-based involvement (Barton et al., 2015).

Sampasa-Kanyinga and colleagues (2019) studied the connection between outdoor physical activity, screen time, sleep duration and obesity in adolescents by sending out surveys to 7 through 12 grade students in a public school district. The survey contained questions and recommendations about physical activity, screen time, sleep duration and body mass (Sampasa-Kanyinga et al., 2019). “There was a positive gradient between the number of weekdays spent physically active outdoor after school and compliance with the physical activity and screen time

recommendations” (Sampasa-Kanyinga et al., 2019, p. 199). Physical activity has a better chance of being facilitated in a natural playground setting compared to sedentary behavior in a classroom. Positive behavior habits, such as physical activity, are created during childhood and can extend into adulthood (Sampasa-Kanyinga et al., 2019).

Outdoor Play and Social-Emotional Learning

An important component of early childhood education is the growth in social-emotional relationships and interactions among peers. This is how students test and learn their boundaries with peers, learn to use words and calm themselves when feeling frustrated or mad. Social and emotional growth shows “positive communication and expectations; responsiveness; and providing children with responsibilities and freedom of movement” (Tonge et al., 2018, p.33).

Li and colleagues (2016) wanted to investigate pretend play in the outdoor play setting, so they collected a time sampling of 28 preschool children from four different locations. Each child was observed for forty-five minutes to one hour and a rating scale was used to assess cooperating skills, self-control, and assertion skills (Li et al., 2016). The teachers provided props and costumes, but otherwise children were able to choose their activities during the playtime. The results revealed the girls spent 23% of their time in pretend play outside and the boys spent 20% of their time. One conclusion was that assertiveness can be enhanced through social play outside as each child gradually shifts from concrete pretend play to abstract pretend play (Li et al., 2016). “Results showed that abstract pretend play was positively associated with the teacher-rated cooperation score” (Li et al., 2016, p. 64). Overall, the time sampling showed a thriving environment in which children had the time and freedom to explore and interact. Wonderful conversations and connections transpired. Teachers were able to add rich and meaningful

content and adding costumes to the outside environment is an easy and cost-effective strategy (Li et al., 2016).

Tonge, Jones & Okely (2018) chose 11 early childhood education centers to participate in the CLASS Pre-K assessment scale specifically looking at emotional support, classroom organization and instructional support. Diving deeper into the emotional support domain, the focus was on “interactions that support social and emotional functioning in the environment” (Tonge et al., 2018, p.33). Observations also took place in the outside play space, and a key finding was that larger amounts of time spent in free play outside enhanced the value of connections between the teacher and the students (Tonge et al., 2018). Higher quality interactions allow the relationship between the teacher and student to strengthen which in turn allows the child to feel valued and gain confidence in their learning (Tonge et al., 2018).

Dankiw et al. (2020) researched the impacts of unstructured nature play by conducting a meta-analysis of 16 published studies on the topic. Regarding social and emotional outcomes, they found enhanced teacher and student interactions in nature play and an increase in positive demeanor after unstructured playtime outside.

Love for Nature

A common theme when researching benefits of outside play was a connection between mental clarity and overall happiness for children that spend more time outdoors. This is vital for preschool programs to take note of and include quality nature and outside play time more frequently (Larimore 2019). Barrera-Hernández et al. (2020) conducted research with 296 children using the Likert scale, a response scale, and the Subjective Happiness scale. The students, ages 9 to 12 years old, filled out the instrument during the school day under guidance of their teacher. The results concluded that bonding with the environment positively impacted

balanced activities that offer happiness for students. Selfless, careful, hard-working, and positive attitudes are all attributes to connecting with the environment. Children will be the upcoming porters for caring for the environment, so fostering a passion for it is essential (Barrera-Hernández et. al., 2020).

Harju and colleagues (2020) interviewed three separate programs in Sweden that used the term “mobile preschool” to study the outcomes of implementing such programs. One program picked up inner-city children and drove them out to the country for a day of exploring. Another program existed closer to the nature sites they visited each day and rode a bus to arrive there to freely explore. The third program had a different view entirely; students were bused to a location for exploring, but the students stayed on a walking path while holding hands with a classmate rather than being free to explore. The children in the third group were in nature to simply increase physical activity through walking and were not allowed to interact with nature. “The focus is on how children learn to appreciate the beauty of the outdoors by looking at the landscape while walking through it” (Harju et. al., 2020, p.5).

The conclusion was that all three mobile preschool programs provided students with a positive attitude towards nature. The students gained an abundance of knowledge and interactions using all five of their senses while learning appreciation for the environment (Harju et al. 2020). It is a hands-on experience to interact with moss while in nature compared to describing it from the classroom setting (Harju et al. 2020). A hypothesis from Harju and colleagues (2020) was that outdoor education for young students lays a foundation for real-world interactions and life-long appreciation of nature.

Assessing Outdoor Play

Outside play is to be valued, and with the right tool, educators can see the benefit of outside play. Teaching Strategies GOLD is an assessment tool well known in the early childhood field. It uses formative assessments where the educator captures observations using checklists, notes, photos, videos, and digital samples to ensure each child is progressing academically. For example, teachers can observe students playing with loose nature materials such as leaves and acorns. Students may begin to accurately count, sort, or pattern with them. With respect to the GOLD assessment, that would be direct photo, video, or observation evidence of making progress in mathematics (objective 20a counts and objective 23 demonstrates knowledge of patterns), and cognitive objective 13 uses classification skills. Many of the learning objectives that are measured using Teaching Strategies GOLD can be observed in the outdoor play space.

Loebach and Cox (2020) developed a tool for effectively observing students in outside playgrounds and naturalized play areas, referred to as TOPO (Tool for Observing Play Outdoors). The play categories include physical play, exploratory play, imaginative play, play with rules, expressive play, bio play, restorative play, and non-play (Loebach & Cox, 2020). Teachers can observe students playing in more than one category as they are participating in activities outside, rather than limiting the observation to one category as other tools have done in the past. This makes it easier to see connections for whole-child development while interacting and exploring outside among peers. Additionally, the creation of collapsed and expanded versions of the TOPO makes it a flexible tool for educators to implement in the outdoor setting.

Conclusion

It is vital for young children to have a significant amount of time exploring and interacting outside amongst a wide variety of activities. Prolonged intervals of time in an open-air natural environment offers chances free from disruption due to moves, groundwork and putting away of gear (Tonge et al., 2019). “Physical play is one of the most endangered forms of play in our schools and society” (White, 2012). Extra outside play time can improve students’ lifestyles physically, mentally, emotionally, and socially. An additional outside play space/natural classroom will help students to learn through play, enhance cognitive development, provide health benefits, improve physical growth, allow for more time to develop social-emotional skills, and provide an infectious love for nature at a young age.

Need for Plan

District Information

The research site is in west central Minnesota where two communities form one school district. The school district has four different school buildings and has students from preschool through 12th grade, averaging about 125 students per grade level. There is not significant diversity in the district, with 90.4% of the student body being white according to the public report card by Minnesota Department of Education (2018). The graduation rate from 2017 was 97.9%. There are four public preschool classrooms located in the learning center that each service on average 20-24 students every school year. In addition to the four public preschool classrooms, there is a Head Start classroom located in the building. Students can attend public preschool all day every day, half days every day, three full days a week or two full days a week. A typical preschool year for the school district is 80-90 preschool students with 2/3 of the students moving on to kindergarten.

District Need

At the beginning of the 2020-21 school year, the Covid-19 pandemic was prevalent, and many changes happened. One of those adjustments was the decision to only have one preschool classroom outside on the playground at a time. This cut outside play time down drastically as five classrooms needed time slots to play outside independently. The first classroom began outside playtime at 9:15 AM and was scheduled for 30 minutes, with every classroom being scheduled 30 minutes after. The fifth classroom was scheduled outside from 11:15-11:45 AM. There was additional outside playtime later in the afternoon for the students who use the extended care hours; however, not all the students got to be a part of that time structure.

A time study was performed for one week in the second week of March to determine whether each classroom was indeed getting 30 minutes of play time outside. The results showed that Classroom 1 averaged 31 minutes a day of outside playtime. Classroom 2 averaged 28.6 minutes a day and Classroom 3 averaged 28 minutes a day. Classroom 4 averaged 28.8 minutes of outside playtime a day and Classroom 5 averaged 29 minutes a day (see Appendix A). Students received an average of 29.08 minutes of outside playtime a day.

The need, according to the preschool teachers, is flexibility in the length of time to provide outside play time. The 30-minute time slot is not enough time on the beautiful weather days when the teacher would like to provide circle time activities and science or math lessons outside. Teachers have attempted to find alternate spaces outside of the playground to observe insects, go on a nature walk or read stories, however for some students the safety issue arises when there is not a fence to keep them out of harm's way.

Existing Outdoor Space

The current playground space measures 107 feet by 80 feet, with total square footage of 8,560 feet. It has a commercial playground with multiple slides and climbing apparatuses. The ground has a soft playground surface, with a portion of it having a path for the kids to follow by foot or tricycle. The area has a music corner, a basketball hoop, school bus apparatus, and a playhouse. There is a large cement pad and a large canopy to provide a shaded area on fake grass. There is a small grass area with one evergreen tree and two picnic tables, and a large sandbox with toys. The playground is a wonderful space and works well for one classroom at a time. The district owns 26.1 acres at this school site, and there is abundant room to create a second natural playground site next to the current commercial playground site.

Proposed Natural Playground

The proposed second playground space would be 75 feet by 170 feet and the total square footage of the new natural play space would be 12,750 square feet (see Appendix B for outline of new space next to the current playground). This large grassy space with one large oak tree, will be transformed into a natural playground using earth materials. The largest expense will be installing a fence, though it is necessary so that all the students can have the opportunity to explore safely in the space. Fundraisers will provide the income to purchase the fence, and donations will be collected from area businesses to enhance the space. The school site has several evergreen trees, so moving a few into the space will allow the students to have mature trees in the space to explore around.

Goals for Plan

The goal for this school improvement project is to increase the amount of free play time outside for each preschool classroom, so the students will have more time to explore, interact and

grow their abilities in a nature-filled playground space. Each classroom would have a 30-minute time slot in each space. Teachers would have the flexibility each day to choose to use the commercial playground space, or the natural playground space, or both if the weather is wonderful and the academic goals can be ensured.

Another goal for the school improvement project will be getting approval for having a walking path cut into the extra acreage that the school owns, where tall grass grows. The preschoolers could go on nature walks regularly with their classes if a path were created. This would be an inexpensive way to add additional outside time to the school schedule.

The third goal is implementing this plan at no expense to the school district. The school district is not able to help fund a project of this scope; therefore, a budget was developed as well as a plan for alternative funding sources (see Appendix C). Donations of money, materials, grants, and volunteer time will assist in making the project happen. The school district is a close-knit community, so public collaboration is possible. As a result of the partnership with the community and area businesses, the plan is for the outside classroom to be available for the public to use outside of school hours.

Approval of the Plan

The researcher will oversee the project from beginning to completion. The building supervisor (principal) has given permission for the school improvement project to proceed, including fundraiser efforts. The early childhood coordinator has also granted permission, and has worked collaboratively with the researcher and the other preschool teachers to ensure the space is well planned out and beneficial.

Plan Implementation

The first step in implementing the school improvement plan will be to structure a series of meetings with the early childhood coordinator and teachers to discuss ideas, costs, and information collected for the additional outside play and learning area (see appendix D). The preschool team should discuss how the additional space can be used to increase outside playtime and as an outdoor classroom. The team can also share which units of study could be taught in the outdoor circle time space. The existing learning study unit trees would be an appropriate starting point to discuss how teachers might take advantage of the nature classroom space. Sobel et al. (2016, p.46) reflected on the use of trees as classroom space, observing “A circle of stumps with a log bench provide a hint that the children meet there for group time to listen to a story or perhaps share their toads or other discoveries made that morning”. The input generated from the preschool teachers will help in creating the final layout of the additional space and fundraising details.

The next step will be to collaborate with a professional landscaper and preschool parent who has offered to donate his time. He will critique the layout of the natural play space and ensure the space is easy to maintain for the groundskeeper staff (see Appendix E). Additionally, the final quantity of materials and pricing will be updated so the budget can be finalized.

A local boy scout pursuing his Eagle Scout status has selected the outside play and learning space as his Eagle Scout project. An initial meeting with the Boy Scout will take place in April to finalize materials needs and view plans for the creation of two benches for the new outside space. He will fundraise for the materials for the benches, plan the creation of the benches and create the benches.

The final step will be to walk the ground with the supervisor of the early childhood facility and grounds-keeper supervisor to receive final approval and finalize the layout plans which will take place in the beginning of May 2021.

In June 2021, final plans will be made with the contractor who will be install the fence. The fence permit and fence site plan will be submitted to the city so that work can begin when the contractor is ready. Projects for the summer of 2021 will include creating small cement blocks out of a few colors of secrete in various shapes for students to use for building with outside. Additionally, a collection of the right size branches and sticks for students to use for building creatively in the new space, will be gathered. A third project will be building a small log house where students can use fairy garden supplies to interact and play with the house outside. The goal is to have the additional playground space ready for the preschool students and teachers to use by October 1, 2021.

Projected Expenses

The largest expense will be purchasing and installing the fence for the new outdoor classroom space, which will be 75 feet by 170 feet. The fencing will be chain link four feet tall to match the current fencing, and will connect to the current fence on one side. The fence will include two large 18-foot gates, with 12-foot openings to allow for maintenance vehicle access, as well as access for students and staff (Appendix C for a list of materials, quantity, and cost estimations.)

Additional needs that will be met from donations from seven area businesses include sand, pea rock, landscaping fabric, double walled 48-inch culvert, wood chips, tires, wood materials, rock, and landscape blocks. A group of volunteers, led by the professional landscaper, will provide the labor for installing the nature elements.

Strategies to Raise Funds

The grants, fundraiser letter and information flyers will go public in May 2021, so that funds can be raised in the summer of 2021 (see Appendix F, G & H). Area businesses will receive letters asking for donations of supplies, labor, or money (see Appendix I). The first fundraiser-- a Trike-A-Thon-- will take place on Tuesday, May 25, 2021 with the back-up date in case of rain on Thursday, May 27, 2021. Students will raise money for the school improvement project by asking neighbors, family, and friends for support through sponsorships for their participation in the Trike-A-Thon. Every student will receive a fundraiser packet and flyer with information about the school improvement project. The school district Facebook page and school district website will also highlight the event. The local newspaper will provide coverage of the event to the public.

The preschool team will collaborate if more fundraising efforts are needed. The possibility of selling Krispy Kreme Donuts as an additional fundraiser could be implemented. An idea executed in the past was partnership with area restaurants to pick an evening to encourage families to eat out, after which the restaurants donated a percentage of their profit from their individual evening of sponsorship. That fundraising strategy may also be explored again, if needed.

Barriers

A significant barrier will be raising enough donations so the school improvement project can be implemented at no cost to the school district. Therefore, contacting businesses for donations, having fundraisers, and writing grants is a priority to move forward. Another barrier is the need for the fence around the additional play area—the single greatest expense for the project. Additions could be made to the space without adding a fence; however, the fence

provides security allowing for every student to have the advantage of additional play time outside regardless of behaviors or abilities. A third barrier could be potential concerns raised by groundskeeping staff about the additional objects and the new space to mow and maintain. Therefore, a landscaper will be asked for professional advice and the space will be well planned to make maintenance as easy as possible.

Assessment

Once the additional outside nature classroom is ready for children to play, a time study will take place using the Time Study Form (see Appendix J). The time study will be conducted as it was previously, with each classroom teacher marking the time they enter the outside spaces and the time they depart the outside spaces. The assumption is that each classroom will be able to increase their time outside during the regular preschool day.

The researcher and preschool team will meet at the conclusion of the 2021-22 academic year following the installation of the outdoor play space to reflect on any changes to circle time activities, small group lessons, nature walks, and free-play time outside as a result of the new space. These are all learning strategies that could have a positive impact from having additional outside space to utilize.

Additionally, it will be beneficial to continue to assess students using the Teaching Strategies GOLD assessment (T.S. GOLD, 2021) to see if the additional outside play space provides growth in specific objectives under Social-Emotional, Physical and Cognitive learning (see Table 1).

Table 1

Learning Objectives Influenced by Additional Outside Time and Play Space

Objective

1. Regulates own emotions and behaviors

- 1b. Follow limits and expectations
2. Establishes and sustains positive relationships
 - 2a. Forms relationships with adults
 - 2b. Responds to emotional cues
 - 2c. Interacts with peers
 - 2d. Makes friends
3. Participates cooperatively and constructively in group situations
 - 3a. Balances needs and rights of self and others
 - 3b. Solves social problems
4. Demonstrates traveling skills
5. Demonstrates balancing skills
6. Demonstrates gross-motor manipulative skills
11. Demonstrates positive approaches to learning
 - 11a. Attends and engages
 - 11b. Persists
 - 11c. Solves problems
 - 11d. Shows curiosity and motivation
 - 11e. Shows flexibility and inventiveness in thinking
12. Remembers and connects experiences
 - 12a. Recognizes and recalls
 - 12b. Makes connections

These objectives should be positively influenced by the additional time to explore outside and grow in nature with peers. The teachers will collect data using photos, observation notes, checklists and video proof of the growth as documented in the GOLD assessment.

Conclusion

Extended playtime outside provides stimulating environments where students use all their senses to learn through experience (Tonge et al., 2018). Positive habits are formed from playing outside regularly, including the mitigation of excessive screen time (Schwarzfischer et al., 2020).

Encouraging young children to move and explore can help them problem solve with their peers, strengthen teacher and student relationships, and encourage critical thinking skills. Students who are connected to nature may demonstrate more positive attitudes during the school day and encourage the next generation to take care of and appreciate our environment (Harju et al., 2020). Positivity, creativity, and work ethic can all be drawn from additional outside play time and regular body movement. Therefore, it is imperative that the preschool students have the opportunity for additional outside nature play. This school improvement project ensures children at the research site, and their community, have a safe venue to play and learn outside.

Appendix A

Time Study Form

A time study of the use of the playground/outside playtime. Data (time) was written down upon entering the playground and exiting the playground by each individual teacher.

Date	Classroom 1	Classroom 2	Classroom 3	Classroom 4	Classroom 5
Monday 3/8/2021	9:13 AM	9:43 AM	10:14 AM	10:45 AM	11:23 AM
	9:43 AM	10:13 AM	10:45 AM	11:16 AM	11:51 AM
	30 minutes	30 minutes	31 minutes	31 minutes	28 minutes
Tuesday 3/9/2021	9:17 AM	9:45 AM	10:16 AM	10:44 AM	11:21 AM
	9:45 AM	10:13 AM	10:44 AM	11:15 AM	11:53 AM
	28 minutes	28 minutes	28 minutes	31 minutes	32 minutes
Wednesday 3/10/2021	9:07 AM	9:46 AM	10:19 AM	10:50 AM	11:19 AM
	9:43 AM	10:14 AM	10:44 AM	11:15 AM	11:48 AM
	36 minutes	28 minutes	25 minutes	25 minutes	29 minutes
Thursday 3/11/2021	9:10 AM	9:45 AM	10:16 AM	10:47 AM	11:25 AM
	9:43 AM	10:15 AM	10:45 AM	11:15 AM	11:51 AM
	33 minutes	30 minutes	29 minutes	28 minutes	26 minutes
Friday 3/12/2021	9:15 AM	9:48 AM	10:17 AM	10:44 AM	11:20 AM
	9:43 AM	10:15 AM	10:44 AM	11:13 AM	11:50 AM
	28 minutes	27 minutes	27 minutes	29 minutes	30 minutes
Average total time each day from the week	155/5=	143/5=	140/5=	144/5=	145/5=
	31 minutes a day	28.6 minutes a day	28 minutes a day	28.8 minutes a day	29 minutes a day

Appendix B

Photo of Outdoor Space

Photo of current playground and yellow lines for proposed new fenced in outdoor classroom/natural playground space.



Appendix C

Estimate of Budget

List of Materials	Quantity	Cost or Donation
4-foot-tall chain link fence, 12-foot-wide slide gates, and labor for installing fence	425 feet 2 gates	\$15,430.00
Sand	24 yards	Donated
Pea Rock	24 yards	\$495.00
Landscape Fabric	6,100 sq. ft.	\$360.00
Double walled culvert-48-inches tall	8 feet long	Donated
Wood Chips	12 yards	Donated
Tires	10	Donated
Bullet block edging	4 pallets	\$429.00
Excavating	10 hours	Donated
Moving existing evergreen trees into the space	3-4 trees	Donated
Fence Permit Fee		\$50.00
Labor for installing nature materials	Volunteer group	Donated
Benches	2	Eagle Scout Project
Total Estimate:		\$16,764.00

Appendix D

Visions of the Natural Play Space

1. A gathering area, where circle time activities can happen as a class or small groups can choose to gather and use their imagination during free play time.



2. A loose parts area where students can manipulate loose parts (small cement blocks, rocks, sticks, tires etc.), use a balance scale, carry items around and experiment.



3. Simple and safe water play ideas for the warm fall or spring days, no water hook-up needed.



4. Mud Kitchen in sand or pea rocks, with painted food rocks, pots and pans materials donated by families, and a table to sit at and use imaginary play.



5. Small log house to play with fairy garden accessories.



6. A wooden stage where children can perform, interact, pretend, sit, play.



7. Creative art area



8. Digging area



9. Fine Motor Games

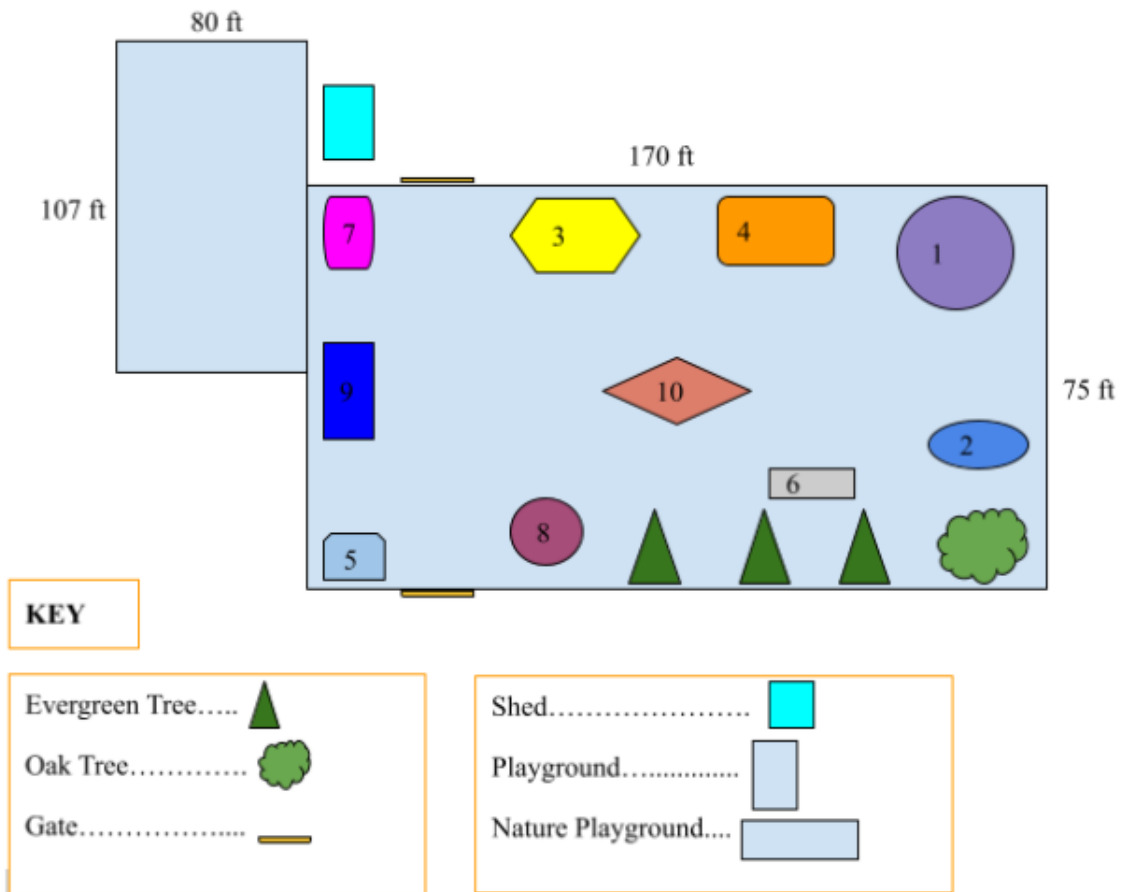


10. Large Motor



Appendix E

Layout of the Proposed Natural Play Space



Key Defining Play Areas:

1. Gathering Area
2. Loose Parts
3. Water Play
4. Mud Kitchen
5. Small Log House
6. Wooden Stage
7. Creative Art Area
8. Digging Area
9. Fine Motor Games
10. Large Motor

Appendix F
Fundraiser Flyer



SUMMER KICK-
OFF PARTY



& Trike-A-Thon

Tuesday May 25th 4:00-
5:30 PM



****Raising money to create our outdoor
classroom/natural play space*



Appendix H
Grant Application

[Redacted] Educational Foundation

Grant Application

For grants dispersed during the 2020-21 school year

Deadline: Due to COVID-19 we will accept grant requests throughout the school year. Grants will take approx. two weeks to process.

Project Title \$ Amount Requested

Applicant's Name (Individual, Department, Committee) Building

Additional partners: Parent Local Org./Business Other

Primary Contact Name

Primary Contact Person: Home Address

Home Phone School Phone

This section to be completed by school principal:
I have reviewed this application and recommend this project / plan for funding from the [Redacted] Educational Foundation. The funds requested in this application are not expenditures that the school district can provide at this time.
I do not recommend this application for funding from the [Redacted] Educational Foundation for the following reason(s):
Principal Signature Date

Forward proposal to: [REDACTED] Executive Director of Educational Foundation
[REDACTED]
[REDACTED]

If you have questions or need assistance, call [REDACTED] or email:

[REDACTED]. **Deadline: Due to COVID-19 we will accept grant requests throughout the school year. Grants will take approx. two weeks to process.**

It is the mission of the [REDACTED] Educational Foundation to enhance the quality of education and educational opportunities and generate and distribute financial and other resources for the benefit of the students of the [REDACTED] School District for innovative programs and projects.

Please answer the following questions on a separate document (typed) and attach it to the grant application.

PROJECT NARRATIVE

1. Please describe your project (≤ 1 page). The grant selection committee is interested in knowing about:
 - Innovative aspects of the project;
 - Educational objectives met;
 - Relevant Academic Standards;
 - Plans to share the benefits of this project with your site/grade level;
 - Timeline for the project;
 - Number of students directly participating;
 - Other aspects of the project you feel are important.

2. Which of these best describes your project? (Select only one.)
 - a. Pilot Project
 - b. Field Trip / Off-campus learning opportunity
 - c. Materials request
 - d. Equipment Request
 - e. Planning Grant
 - f. Curriculum Innovation

OUTCOMES

3. How do your anticipated outcomes align with our funding priorities (below)? Please list 1-4 key outcomes and identify the priority / priorities that each relates to.
 - a. **Community Partnerships:** Connecting students and teachers to community resources and expanding learning outside the classroom.
 - b. **STEAM Initiatives:** Projects directly related to Science, Technology, Engineering, Arts and Math.
 - c. **Individualized Approaches:** Highlighting and building on students' unique strengths and identifying, monitoring and expanding support for students who are struggling.
 - d. **Cultural Enrichment:** Developing 21st century skills by deepening and broadening students' understanding of the world through programs and opportunities related to cultural diversity, the arts and humanities.

Outcome	Priority/Priorities	Number of students directly impacted

BUDGET

4. Detail your budget request. Include specific information, such as kinds of materials and equipment needed, sources of supplies and cost. Categories may include services; training / professional development; materials; equipment; transportation; rental; etc.

ITEM (for materials include quantity)	SUPPLIER	AMOUNT

TOTAL	
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5. Please describe other sources of support for your project:

Other Source (Examples: Student Fees; PTO, Arts & Academics Booster Club, Lions Club, Peer Helpers, etc.)	Nature of Support (Check one)					Amount	Secured / Unsecured?
	Volunteers	Materials	Services	Financial Contribution	Other		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Appendix I

Donation Letter to Area Businesses

· [REDACTED] Early Childhood Programs · [REDACTED] ·
· Mailing Address: [REDACTED] ·
[REDACTED]

April 1, 2021

[REDACTED]

Dear [REDACTED],

The [REDACTED] [REDACTED] Programs would like to request a donation to help with our school improvement project of adding a natural playground space. This will allow the preschool students additional playtime outside learning in nature. An additional outside play space/natural classroom will help students to learn through play, enhance cognitive development, provide health benefits, improve physical growth, allow for more time to develop social-emotional skills, and provide an infectious love for nature at a young age.

The projected date of the opening of this nature playground space is October 2021. This area will be open to all families of the [REDACTED] community and surrounding areas. A big THANK YOU to you for always supporting our programming.

If you have any questions, please call [REDACTED] [REDACTED]. Thank you for your help in making this dream for our preschool students and community successful.

Sincerely,

Holly Carlson
[REDACTED] Preschool Teacher
[REDACTED]

Appendix J

Blank Time Study Form

Date	Classroom 1	Classroom 2	Classroom 3	Classroom 4	Classroom 5
Monday 3/8/2021					
	__ minutes	__ minutes	__ minutes	__ minutes	__ minutes
Tuesday 3/9/2021					
	__ minutes	__ minutes	__ minutes	__ minutes	__ minutes
Wednesday 3/10/2021					
	__ minutes	__ minutes	__ minutes	__ minutes	__ minutes
Thursday 3/11/2021					
	__ minutes	__ minutes	__ minutes	__ minutes	__ minutes
Friday 3/12/2021					
	__ minutes	__ minutes	__ minutes	__ minutes	__ minutes
Average total time each day from the week	__/5= __ minutes a day	__/5= __ minutes a day	__/5= __ minutes a day	__/5= __ minutes a day	__/5= __ minutes a day

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