

Shayna Cooper

From the Classroom to the Schoolyard Integrating the Curriculum with Schoolyard Observations

A Brief Explanation of the Schoolyard Project

The schoolyard project was created by the principal of Park Forest Elementary, along with a small team of teachers. The schoolyard includes four different observation sites. Classes generally split in half, one half going to two sites, the other half going to the other two sites. Because of children's age, kindergarten normally breaks into four groups, each group visiting one site. Every classroom in the school is assigned one day per month when they must complete schoolyard observations. The only requirement for the schoolyard project is that an observation form is filled out for each of the four sites on assigned observation days. The forms are then taken to the mailroom and put in a binder for the correct site. The idea behind the binders is that every school day, the schoolyard will be documented and changes can be seen over time. The schoolyard project helps children acquire journaling, observing, identifying, and classifying skills. The project is also intended to help children see reoccurring patterns in nature and as well as interactions within ecosystems.

Teaching Context

For this project, I had a special focus on my second grade classroom. Because of this, a little information about this group is in order. There are twenty-two children in my class, made up of 10 girls and 12 boys. There are two children that receive learning support services and an additional three that attend title one reading classes. Most students were born in State College, a few in different states, and two in different

countries. The children come from a variety of family types including single, adopted, and two parent homes. The children come from varying socioeconomic situations. As a group, the children are chatty and have trouble following directions.

The schoolyard project is made up of four different sites, the names were voted on by the children: “Chipmunk Getaway”, “Tree Towers”, “Bat Landing”, and “Lost Land of Leaves”. Some of the sites have picnic tables and pavilions; one is home to the Trail of Life. To attract wildlife to the area and help with wildlife observation, the schoolyard includes many birdfeeders, a butterfly garden, and a bird observation wall.

Rationale

When I first heard about the schoolyard project, I was very excited. I really did not have much information on the project; I just knew the dates of our classroom observations. The first two times I went out with my class, there was not a clear focus. The children were simply told to observe the site and record findings of interest and any changes they noticed since the last observation. The children enjoy going out for the schoolyard project, but without a focus, there was a feeling of disconnectedness from the daily classroom activities. I had heard many teachers discussing minor frustration towards the schoolyard project. With so many things to accomplish in a school day, it is difficult to add another component that seems to have nothing to do with the curriculum. I instinctively began to wonder how the connection between the curriculum and the schoolyard project could be strengthened.

I think the schoolyard project is an excellent way to get children outside while meeting standards addressing natural systems, survival, patterns in nature, and weather

elements. I think many teachers may be unsure how to transfer what they are teaching in the classroom to the schoolyard, or perhaps they just do not have the time to make the connections. They may also be afraid to stray too far from the original ideas for schoolyard implementation. I think if teachers were given ideas for how to incorporate the curriculum into the schoolyard and talked about other ideas, they might be more comfortable and happy with their observations. Incorporating the schoolyard project with the curriculum may also increase the frequency of classroom observations. I feel that this project is especially important in the early years of education, as the children learn about themselves, their community, and their connections to their surroundings. I looked at how all grades are addressing the schoolyard project, while paying special attention to the primary grades. At such an influential age, I think it is very important for children to have a good experience in the schoolyard and hopefully one that also makes connections with standards and curriculum.

This inquiry project helped me think about how children can be taught the curriculum and standards in a natural environment. I can carry these ideas with me anywhere. It may also help me learn to teach without all the manipulatives and technologies available in the State College School District.

Wonderings and Questions

How can a teacher link the ongoing schoolyard project to the curriculum and standards in ways that promote student learning/emotional development, while still meeting the goals of the schoolyard?

-What successful activities have other classrooms done with the schoolyard project and how could we build on those ideas?

-Do any classes have more involvement than the once a month required observations that are incorporated into the curriculum?

-Does the curriculum done every other year allow for more involvement with the schoolyard project and if so, how can I adapt it for my students?

-Does a focused observation give more structure to schoolyard observations?

-What do the children see themselves learning from the schoolyard?

-What kinds of observations do children most enjoy? Are they related to the curriculum?

Inquiry vs. Improvement project

This is an inquiry project, because there is not a clear answer. A few of the intermediate grades have done projects that connected their classroom learnings to the schoolyard project. Information from these classrooms helped me to determine several ways in which this could be done, but it does not answer how exactly connections can be made in the primary curriculum. I am trying to understand the way the Schoolyard Project has been viewed and conducted in past years, how other teachers might connect

their curriculum to the project, and how I can tie it to standards and curriculum goals for my classroom.

Inquiry Plan Description

In order to conduct this inquiry project, I surveyed teachers and students about activities done in schoolyard, talked informally with teachers about observations, talked with specials teachers about involvement in the schoolyard project, observed grades K-4 conducting schoolyard observations, and implemented a focus connected to the curriculum in the primary grades.

Data Collection

One of the first formal ways I collected data was through a teacher survey. I put a survey in each of the homeroom teacher's mailboxes. Out of the twenty I distributed, I received eleven completed surveys in my mailbox. I introduced the idea of the project in a brief note, then questioned the teachers about their schoolyard experiences, class reactions, and curriculum integration.

The second way I collected data was through observation of my own classroom. I had been participating in schoolyard observations with my own classroom since September. I had seen their reactions to many schoolyard projects with and without foci, as well as those connected and not connected to the curriculum.

The third way I collected data was by observing five different grade levels conducting schoolyard observations. This was somewhat difficult, as I had to leave my own classroom and teaching duties to observe the other classes. Because of this, I was

not able to observe as many classes and grade levels as I would have liked. During the observations, I took notes on the grade level, any planned focus, how the class was split between the four sites, and observed reactions of the children.

A fourth source of data was already being collected for me. In the office, there are schoolyard binders for each site, there are observation sheets with notes and pictures for every schoolyard observation that has been conducted this year.

The fifth way I collected data was through formal and informal conversations with coworkers. I talked with other interns, classroom teachers, special teachers, the special education teacher, and the principal. I asked these people all kinds of questions about the schoolyard project and recorded their responses.

A sixth way I collected data was through a student survey in my classroom. I gave the survey to my students as a morning activity, allowing them to look through their schoolyard journals as a resource. I asked the children about their favorite and least favorite parts about schoolyard, any observation they remembered from their journal, feelings about this year's observations, what they have learned from the schoolyard experience, and what they would like to do during schoolyard observations.

When it was time to begin morning meeting, I had not gotten a complete response from many of the children. Talking to friends and eating breakfast had taken precedence over completing a survey about the schoolyard. Because of this, my mentor teacher took the surveys to her language arts station the next day in order to elicit more ideas from the children.

Data Analysis

1. Teacher Survey

In order to analyze the initial teacher survey, I looked at the response to the first question on all eleven surveys. I counted the number of teachers who said they had tried focused and unfocused observations and those who said they only used unfocused observations. For the second question, I tallied the number of teachers who said a focused observation worked better, and reviewed the comments. I then tallied the teachers who enjoy using a combination of focused and unfocused observations and reviewed their rationale. For the third question, I counted the teachers who said they use, or sometimes use the suggested schoolyard activities (located in the PFE Schoolyard Fact Finder). I then reviewed the comments of the teachers who answered adversely. When analyzing the fourth question, I looked at the number of teachers who said they were not incorporating the curriculum at all, then compiled a list of curriculum related subjects the other teachers had used during schoolyard observations. For the fifth question, I compiled a list of activities the children have been responsive to and made note of any repeated activities. When reviewing the sixth question, I counted the teachers who responded they would like the schoolyard project better if the observations were integrated into the curriculum, those who said they integrate it as much as possible, and the teachers who said something different.

2. Observations from my own classroom

In order to analyze the observations from my own classroom, I thought about the kinds of observations done and the children's behavior. I compared my impressions of their behavior to the structure of the observation. I realize that I should have documented

this in some way. If I did this project again, I would take specific notes during observations and write reflections after.

3. Schoolyard Observations

In order to analyze the schoolyard observations, I looked at my observation notes and compared the grade levels, type of activities, curriculum integration, and child response.

4. Schoolyard Binders

In order to analyze the schoolyard binders, I first counted the number of completed observation sheets for each month in each binder. I then looked at the number of classrooms that had a clear monthly focus, what that focus was, and if that focus was repeated by other teachers during the month.

5. Informal Teacher Conversations

When analyzing the informal teacher conversations, I simply compiled all of the information I gathered and connected it to my initial wonderings.

6. Student Surveys

In order to analyze the student surveys, I looked at each question individually, making notes of new answers and keeping tallies for repeated answers. I also looked at who the negative answers were coming from and thought about the social, behavioral, and academic variables that may attribute to negative answers.

Claims and Evidence

1. Schoolyard observations with a planned focus keep children actively involved.

1.A. Teacher Survey

In my initial teacher survey, the second question asked if observations worked better with or without a focus. Over half (six of eleven) teachers thought a planned focus worked best. Some comments were that a planned focus keeps the students interest and adds to the structure. One of the teachers thought that while a planned focus works best, the children do not like it as much as free exploration. I explored this idea further in my student survey. Four of the eleven teachers liked to use a combination of focused and unfocused observations. One teacher said she likes to brainstorm ideas for a focus, while allowing children the freedom to explore other ideas. Another teacher began the year with unplanned observations and moved into more focused observations during the year.

1.B. Observations in my classroom

The schoolyard observations in my classroom showed evidence that with more structure and focus, students are more involved and on task during schoolyard observations. At the beginning of the year, we would go out with no focus and just expect the children to find things in nature to observe. The children were often running around and yelling. I saw little difference between schoolyard and recess, besides the journal they carried in their hands. In January, I started to add a focus to the schoolyard observations.

The first focus I came up with was looking for animal tracks in the snow. The children enjoyed this and it kept them more focused than previous observations. This was

seen when most of the children actively looked for animal tracks for the entire observation and excitedly tried to identify their tracks when we came inside. I expected the children to sketch tracks outside, then come inside to identify them in animal track books. The problem was, children did not spend much time looking at any one set of tracks, they would see tracks, then run off to look for more. They made quick sketches of their tracks that were not very clear and really could have been made by any animal. I think this activity would have gone better if I had given them more guiding questions before going outside. The children may have been able to identify their tracks more easily by asking questions like: how many toes do you see, compare the track to the size of your hand, compare the distance between tracks to the size of your hand, where are the tracks coming from and going to, predict what this animal is and what it was doing when it made the tracks.

The second focus I came up with was related to our current math studies. I had the children looking for rectangles in the schoolyard; a special challenge was to find rectangles in nature. Because it was a cold day, we took cameras (one belonging to my mentor teacher and the other to the school) outside and took pictures of rectangles the children pointed out. We then went inside, loaded the pictures onto the computer, and the children who spotted the rectangles shared where they found the rectangles. The children had a good time with this activity. They were on task most of the time, because they wanted pictures taken of their rectangles.

The third focus I came up with also related to our math studies. We were studying probability and focusing on the terms likely and unlikely. When I introduced this activity to my students, I asked what month it was and what season (April, Spring). I

then asked them to think of things they were likely to see outside because of the current season. I gave them a checklist where they wrote down their ideas. After a few minutes, I asked them to think of things they were unlikely to see outside because of the current season. They checked whether these things were likely or unlikely. We then went outside and the children checked yes or no, if they did or did not see the things they had predicted. Most of the children were on task during this observation. I think it really helped to have the checklist to keep them focused on the activity at hand.

As the school year has progressed, I have made the observations in my classroom become more and more structured. As the observations have become more structured, I have observed that the children are more on task and seem to be more interested in schoolyard observations.

1.C. Observations in other classrooms

When observing in other classrooms I was able to see that with more focused observations, students were more on task and interested in the activity. This was especially clear when observing third and fourth grade classrooms using the same focus. The focus was on rocks and minerals, relating to the current science unit. In both classrooms the children were told to go outside and collect one rock sample from each site.

The main difference was that before going outside in the fourth grade classroom, the teacher wrote some guiding questions on the board: What do you think it is, a rock or mineral, why? How can you figure out for sure? Rock observations- look, feel, color, where found, crystal structure. When the children came in, they quickly sat down and got busy answering the questions, sketching their rocks, and trying to identify what kind of

rock they had found. As seen in my observation notes, there was very little off task behavior in this classroom.

In the third grade classroom, the children were given no guiding questions. When they came inside, a few of the children were interested in trying to identify their rocks. Quite a few of the children were interested in rubbing their rocks together, making the outside layers crumble off into their journals.

While it is true that there is a one-year age difference between the students in the two classrooms, I do not feel that this was the main contributor to the on-task and off-task behaviors. As seen in my observation notes, the two activities were the same, except for the guiding questions. I feel that the added guiding questions really helped to keep the fourth graders on task, providing a focused assignment to complete depth of learning.

2. The curriculum can be easily integrated into any observation as a focus, though in some units the connection is more easily seen.

2.A. Teacher survey

In my initial teacher survey, the fourth survey question asked if the teachers ever incorporated the curriculum into their schoolyard observations. Only two out of eleven teachers answered that this is not something they do. Teachers listed some of the ways they were already incorporating the curriculum: using observation skills of Native Americans (during Native American units), plants and animals during corresponding curriculums, writing, environmental science during the unit, symmetry, measurement, describing words, clouds when studying weather, art, sorting and grouping, habitats, and one teacher used the identification books for guided reading.

The response to this question tells me that teachers are already finding ways to integrate the curriculum into schoolyard observations, especially when the current unit is easily transferable to the schoolyard. It is obvious to most teachers that when studying weather in the classroom, schoolyard observations should focus on the sky, clouds, and current weather conditions.

A few teachers are finding ways of incorporating the curriculum in not so obvious ways. Math is one subject that can often be taken outside. Teachers are already having children focus on measurement, symmetry, and sorting and grouping during schoolyard observations.

2.B. Observations in my classroom

Once I started trying to link the schoolyard project with ongoing classroom studies, I had no problem finding activities that connected. I found that math concepts are especially easy to carry over into the schoolyard. When you really think about it, almost anything can be transferred to an outdoor setting.

2.C. Observations in other classrooms

When observing the third and fourth grade classrooms, the teachers easily carried their rocks and minerals unit into the schoolyard. This is an obvious fit into schoolyard observations. It only makes sense that when studying rocks and minerals, a focus should be on the rocks found on the school grounds where children play every day.

2.D. Informal teacher conversations

When talking to teachers about schoolyard observations and curriculum integration, teachers often say that they carry the curriculum outside when it is possible. They often say that some units are more transferable to the schoolyard, for example, “The

Wonderful World of Nature.” This tells me that teachers like to incorporate the curriculum into observations when they are easily able to see the connections.

3. Children are responsive to many different schoolyard activities, though certain foci are more popular among the majority.

3.A. Teacher survey

In my initial teacher survey, the fifth question asked what classroom activities children have been responsive to. All eleven teachers had ideas about this including: tree/insect identification, measuring snow, magnifying bug catchers, footprints, rectangles, drawing, collecting items, taking pictures, animals, and water coloring observations.

3.B. Second grade student survey

In my student survey, the fourth question asks the students which observation they liked best this year. The choices were: free observations, animal tracks, rectangles, and probability. At least one child responded to each of the observations. The most popular observation among the students was the animal tracks; six children responded that this was their favorite observation of the year.

4. Teachers would like to integrate the curriculum into schoolyard observations.

4.A. Teacher survey

In my teacher survey, my final question asked if the teachers would like the schoolyard project more if the observations were integrated into the curriculum. Five

teachers simply answered yes to this question. Two teachers said they already integrate it as much as possible. Two teachers were a bit ambiguous saying it would depend on the children and that sometimes a more open observation is better. A kindergarten teacher said it would be difficult as kindergarten children are such concrete thinkers. One teacher simply answered the question with “no.”

4.B. Informal teacher conversations

Whenever I wanted to attend an observation with a classroom, I would visit the teacher a day or two in advance to talk with them about when they planned to go out for their observation and if they had a planned focus for their observations. I would also tell the teacher a little bit about my inquiry project, ask them if they tried to integrate the curriculum, and ask if they were interested in a more integrated approach. Many of the teachers responded that they do try to integrate the curriculum when it is connected to the outdoors.

Conclusions supported by literature

The curriculum can be easily integrated into schoolyard observations. In fact, the outdoors can be used as a unifying theme for all subjects. Anything studied in the classroom can be taken outside.

I found a number of researchers and other writers who have linked environmental projects to curricular goals and have noted the value to student development. For instance, Meichtry (2005) quotes Chin (2001) as saying,

One of the components of place-based education is the use of the local environment, on or near the school site. Such an approach serves "as a comprehensive framework for learning in all areas: general and disciplinary knowledge; thinking and problem solving; basic life skills and interpersonal communication; as well as developing an appreciation and understanding of natural and social systems. (p. 1)

Another writer (Coyle, 2005) makes direct reference to the links between academic performance and the environment. In fact, this association is termed environment-based education or EBE, and can be found often in the education literature. Coyle (2005) notes,

Education that uses the environment as a way to advance overall academic performance is sometimes referred to as environment-based education (EBE). EBE uses the environment as subject matter while focusing on improvements in science, mathematics, language arts, social studies, and cognitive skills. Environment-based education (also known as school subject area outcomes, or SSAOs, in Thomas Marcinkowski's analysis) can be aimed at meeting state standards of learning or other educational goals (Marcinkowski, 2004). (p. 57)

Teaching towards the curriculum and standards through nature has many positive effects on a variety of students.

A study conducted by Lieberman and Hoody suggests that using the environment as a unifying theme across the curriculum can lead to many positive outcomes. In his article, *Teaching the Web of Life*, Meichtry (2005) notes,

The results of a national study conducted by Lieberman and Hoody (1998) indicate that the benefits of using the environment as an integrating context for learning include improved performance on standardized tests in science as well as other academic areas, reduction of discipline problems, increased engagement and enthusiasm for learning, and greater pride in accomplishments. Further support for using the outdoors as a classroom setting includes the teaching standards found in the National Science Education Standards (National Research Council 1996).” (p. 1)

Another author, Coyle (2005), speaks of creating a memorable learning experience through outdoor education when saying,

Moving environment learning outside the classroom walls – whether to an outdoor nature setting or a community location – seems to create more powerful, focused, and memorable learning experiences. (p. 61)

Another study suggests that moving the curriculum outdoors not only enhances educational outcomes, but increases the health of children as well. The author David Sobel (2005) states,

Students in the Outdoors in all Weather programs are suffering from 80 percent fewer infectious diseases (colds, ear infections, sore throats, whooping cough) than children in conventional indoor programs.” “It makes sense, of course, since putting children in close proximity to each

other in containers of poorly circulated air guarantees more effective transmission of viruses and bacteria. And it does, perhaps, correlate with the SEER findings of lower absenteeism in EIC programs. (p. 35)

An added bonus of outdoor education is that experience outdoors has a positive effect on the later environmental behaviors and attitudes of students. The author David Sobel (2005) makes the point that an integration of the environment into the curriculum is more effective in producing these attitudes than a separated experience when he states,

In-depth school-based programs are more likely to change behavior than programs at the environment camp that are not integrated into the curriculum. For instance, this suggests that an ongoing study of the vernal pool adjacent to the schoolyard is going to have more of an effect on students' environmental behaviors. (p. 35)

Outdoor education can be beneficial for all children, not just those in the mainstream. Sobel (2005) states,

Children with linguistic disabilities often demonstrate greater competency in visual, spatial, and kinesthetic learning modes. These children learn better when the curriculum is activity based, concrete, and practical. Using the nearby environment as a vehicle gives these students the grounded experience they need to develop abstract skills. Instead of being marginalized, special needs students are brought into the mainstream through place-based education. (p. 88)

From this literature, it is clear that integrating the curriculum with the schoolyard environment: can increase test scores and engagement while reducing behavior problems, creates more memorable learning experiences, increases positive environmental behaviors, and helps create more concrete learning experiences.

While taking students outside can be very beneficial, it takes time and thought to make connections and plan a structured activity.

Though many classroom activities can be transferred fairly easily to the schoolyard, it does take some teacher preparation and a different kind of management. Weber (1997) describes some of the problems with taking a class outdoors when he says,

Students are often unprepared for weather conditions. Students can be difficult to control outdoors because many think they are no longer in school. Students' energy level outdoors can tax the teacher. Scheduling the weekly outing can pose difficulties and last minute conflicts are inevitable. Fallback plans are a must Taking students outdoors regularly from the beginning of the school year and maintaining a classroom structure can build the proper rapport that enables the students and teacher to handle these problems. (p. 19)

The author Coyle suggests that in order for students to effectively learn about the environment, the activities should be structured in a certain way. Coyle (2005) describes this when he says,

Hallmarks of effective EE programs include hands-on activities, investigational approaches, out-of-the-classroom experiences, and student-

directed learning. Too few of our schools make use of these approaches, relegating EE to a traditional lecture-style, "information only" format.

Teachers need to be trained in these more sophisticated forms of student-directed instruction. (p. xi)

The information from these authors makes it clear that teachers must plan outdoor activities carefully and always have a backup plan.

Implications

Teachers would like to integrate the curriculum and schoolyard observations, but often do not see the connection between the two. If teachers are given ideas for integrating the curriculum and schoolyard, I believe they would do it. Because I believe connecting nature and the curriculum is so valuable, I created a list of ideas for the primary curriculum. When teachers have an observation day, they can look for ideas under the corresponding unit. I believe this will increase the number of focused observations as well as observations connected to the curriculum. This is important because it provides continuity within the lessons. Also, the schoolyard gives the children tangible from which they can build their knowledge base.

For me, this inquiry project has confirmed my interest in nature-based education. I hope to work at a school with an environmental emphasis in order to learn ways to integrate the environment and sustainability into the curriculum. I then want to take my knowledge to other schools and spread ideas for connecting nature to the curriculum. I have learned this is important because it develops environmental awareness and can be used as a tangible framework to which all elements of the curriculum can be connected.

New wonderings

Now that I have completed this inquiry, I am left with more wonderings.

1. How can the community become involved in the schoolyard project?

This first wondering came to me after reading David Sobel's, Place-Based Education. In this book, Sobel speaks of connecting the classroom to everything that surrounds the school. Connections are made not just to the schoolyard, but to the entire community.

2. Could the schoolyard project be a way to get the children in special education interacting with the mainstream population?

This second wondering also came to me when reading Place-Based Education. Sobel states that through place-based education, children with special needs can be brought into the mainstream.

3. How is the schoolyard project used in the ESL classroom?

The third wondering comes from the same place as the second. I wonder if participating in concrete learning experiences in the schoolyard can lead to language development.

References

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APPENDIX

Schoolyard Project Survey

When I first learned about the schoolyard project at Park Forest, I was very excited. I love the idea of having kids go outside and observe what is around them. However, with all of the requirements of a scripted math program and daily language arts stations, it is difficult to add in yet another element to the day. Through inquiry, I hope to find ways to make the schoolyard project an extension of the curriculum, as opposed to a pause from the classroom curriculum. I am interested in all ideas about the schoolyard project, so please share your experiences with me. Thank you!!!

-Shayna Cooper

When you have an observation... (check one)

Do you have a planned focus for each observation?

Do you allow children to observe whatever strikes their interest?

I have tried it both ways

If you have tried both ways, which do you think works better?

Do you use the suggested activities when doing your schoolyard observations?

Do you ever incorporate the curriculum into your schoolyard observations? If so, how?

What schoolyard activity have children in your class been most responsive to?

Would you like the schoolyard project more if the observations were integrated into the curriculum?

Would you be willing to let me take part in your observations? If so, please put a piece of paper with your name, room number, and grade level in my mailbox!

Initial Schoolyard Survey Analysis

One of the first ways I collected data was through a teacher survey. I put a survey in each of the homeroom teacher's mailboxes. Out of the twenty I distributed, I received eleven completed surveys. I introduced the idea of the project in a brief note, then questioned the teachers about their schoolyard experiences.

1- My first question asked if the teachers planned a focus for their schoolyard observations, allowed the students to observe whatever they want, or if they have tried it both ways. Ten of the eleven answered they have tried it with and without a focus. One kindergarten teacher said they allow the children to observe whatever they wish.

2. The second question asked if observations worked better with or without a focus. Six of the eleven teachers thought a planned focus worked best. Some comments were that a planned focus keeps the students interest and adds to the structure. One of the teachers thought that while a planned focus works best, the children do not like it as much as free exploration. Four of the eleven teachers use a combination of focused and unfocused observations. One teacher said she likes to brainstorm ideas for a focus, while allowing children the freedom to explore other ideas. Another teacher begins the year with unplanned observations and moves into more focused observations during the year.

3. My third question asked if the teachers use the activities suggested in the schoolyard handbook. Eight teachers said yes they use them, or they "sometimes" use them. One teacher said not, a second didn't know what I was talking about, and a third said they haven't read the available resources.

4. The fourth survey question asked if the teachers ever incorporate the curriculum into their schoolyard observations. Only two teachers answered that this is not something they do. Teachers listed some of the ways they are already incorporating the curriculum: American Indian observations, plants and animals during corresponding curriculums, writing, environmental science during the unit, symmetry, measurement, describing words, clouds when studying weather, art, sorting and grouping, habitats, and one teacher used the identification books for guided reading.

5. The fifth question asked what classroom activities children have been responsive to. All eleven teachers had ideas about this including: tree/insect identification, measuring snow, magnifying bug catchers, footprints, rectangles, drawing, collecting items, taking pictures, animals, and water coloring observations.

6. My final question asked if the teachers would like the schoolyard project more if the observations were integrated into the curriculum. Five teachers simply answered yes to this question. Two teachers said they already integrate it as much as possible. Two teachers were a bit ambiguous saying it would depend on the children and that sometimes a more open observation is better. A kindergarten teacher said it would be difficult as kindergarten children are such concrete thinkers. One teacher simply answered the question with "no."

Student Survey

What is your favorite part about schoolyard?

What is your least favorite part about schoolyard?

Look through your journal- tell about a special observation you remember.

Think about activities this year: animal tracks, looking for rectangles, probability with signs of Spring, and free observations. What did you like best, why?

What have you learned from the schoolyard?

What would you like to do in schoolyard?

Student survey results

Favorite part

looking for changes in nature

rectangles X

everything X

birds

nothing X X

garden

going out in the rain

animals

being outside

squirrels

footprints

Least favorite part

freezing cold X X X X

animal tracks

rain X X X

everything X

walking in the forest

we have a book in our hands the whole time

nothing

not enough time X

probability

going inside

special observation

special objects X X X X X X X

birds

none X

rectangles X

activities this year

probability X X

rectangles X X

animal tracks X X X X X

free observations

learned

seasonal changes X X X X

unusual or interesting things outside X

nature around the school

want to do
visit other sites X X
games
whole class together
binoculars
bird calls
bugs close up
twice a month
animals
write stories X X
draw more

Data from Schoolyard Field Observation binders

Site #1

September- 12 entries

Focus- colors of fall

October- 14 observations

Foci- Signs of fall, Changing seasons, Meet my leaf

November- 9 observations

Foci- Shapes in schoolyard, Bare trees and dead leaves

December- 9 observations

Focus- First day of winter

January- 11 observations

Foci- Squirrel nests, Animal tracks, Sounds, Snow

February- 7 observations

Foci- Animal tracks, Rectangles, Measure snow

March- 7 observations

Focus- signs of Spring

Site #2

September- 11 observations

Foci- Trees, Colors

October- 15 observations

Foci- Signs of Fall, Leaves on trees

November- 8 observations

December- 9 observations

Focus- Smooth and rough

January- 12 observations

Focus- Animal tracks

February- 7 observations

Foci- Footprints, Rectangles, Snow depth

March- 7 observations

Site #3

September- 11 observations

October- 14 observations

Foci- 2 Signs of fall

November- 8 observations

December- 9 observations

January- 11 observations

Foci- 2 Animal tracks

February- 6 observations

Foci- 2 Animal tracks

March- 7 observations

Foci- 2 Signs of Spring

Site #4

September- 11 observations

Focus- Ticks

October- 11 observations

Foci- 3 Signs of Fall

November- 9 observations

December- 9 observations

January- 17 observations

Foci- 4 Animal tracks

February- 6 observations

Foci- 3 Animal tracks

March- 7 observations

Foci- 2 Signs of Spring

Notes from conversations

Donnan

intro to interns about schoolyard- good idea, ill do that

intern from rec park to help with the project? difficult to coordinate because it is at a different time every day

area of weakness in standardized tests? no we do very well

let the kids go to all sites? thought about it, but think its important to see the same area so the changes are clear

Special education

they like to look for objects, collect, and glue to observation sheets

it is difficult because two of the three students do not communicate verbally

when the weather is nice, she tries to get them outside more

intermediate- share ideas informally if something works well

primary- unit from alternating year- wonderful world of nature- goes better with schoolyard

art teacher

sometimes takes students out for inspiration- butterfly garden- collect objects to inspire tiles- you handle the more scientific drawings

MANY teachers have said that some units lend themselves better to being integrated into the schoolyard project

Notes from OBSERVATIONS

kindergarten- four groups- no focus- but when I came in they were discussing different shapes- could have taken that outside- though there was no focus it went well because of the small groups- the teachers could ask guiding questions to keep the children observing the nature around them

½ split- came up with idea- signs of spring- what are we likely to see- unlikely to see- liz made checklist- kids came up with ideas in classroom- took checklists outside- checked yes or no if they saw it- probability in math

All but one of the children willingly participated in the activity. They were busy checking off their lists outside.

3rd grade- go outside to collect rocks from each site- took rock books and magnifying glass outside- what kind of rock will we find more of why?

gave out observation sheets to four kids before going out

come inside- raining- some kids trying to identify and draw- some just rubbing rocks together and talking to friends. The teacher went around sharing interesting finds by children, which kept them slightly more focused.

4th- gave guiding questions before going out-

what do you think it is?

rock or mineral, why?

how can you figure out for sure?

observations

look, feel, color, where found, crystal structure

had mag glass and rock id books

went outside shortly to collect one rock from each site

brought inside- kids using magnifying glasses and books- sketching and answering questions- There was very little off task behavior

Schoolyard Resource for Primary Grades

Math

- Estimate, then count the number of trees/flowers at one site. Was your estimation too high or too low? Why?
- Count the number of tables at each site and add for the total number. What if there were double the number of tables?
- Use a tape measurer and record the circumference of a tree. Find one that is fatter and one that is skinnier.
- Find the area and perimeter of the garden. Talk about the difference.
- Write directions for how to get from site 1 to site 2.
- Identify the smallest and largest trees at a site. Predict how they will change over time.
- Look for repeated shapes that create a pattern.
- Write a story problem that can be solved by using manipulatives in the schoolyard.
- Find and label different shapes found in nature.
- Look for rectangles or triangles.
- Look for symmetry in nature.
- Look for right angles in the schoolyard.

Living in Harmony

- Pick one tree to adopt on the first observation- write down all characteristics of tree and use a book to identify the tree.
 - How is your tree different from all the other trees in the schoolyard? How are you different from everyone else at school?

-How is your tree changing? How are you changing?

-If your tree had feelings, how would it feel today, why?

Land of Make Believe

-Find something contemporary and traditional in the schoolyard- how do they fit these categories?

-Write a fairytale that takes place in the schoolyard. The main character should be something found in the schoolyard. Include elements of a fairy tale.

-Write a retelling of a traditional fairy tale that takes place in the schoolyard.

Life Under the Sea

-Find something in the schoolyard that reminds you of the ocean- describe.

-Look at some of the plants in the schoolyard, how are they different from plants found in the ocean?

Pioneers

-Tell about the schoolyard today, how do you think it was different ten years ago? What do you think it will be like in another ten years?

-What is the weather like? How does it affect your life? How would this weather have affected life a long time ago?

-Make a map of the schoolyard.

-Use a compass to journey between the schoolyard sites.

-Look at the different things in the schoolyard, why do we need these things?

-Find a living thing in the schoolyard. How does it support or need other living things?

Wonderful World of Nature

-This unit has many activities that can easily be transferred to the schoolyard. Identify mammals and birds found in the schoolyard.