Section 4: Project Summaries

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  Teachers: Pam Morbitzer and Scott Brouette

- **The Grocery Store Project**  
  Teachers: Pam Scranton and Angie Wells

- **The House Project**  
  Teachers: Sharman Armfield and Lee Makovichuk

- **The Musical Instrument Project**  
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- **All about the West Room Hens**  
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  Teachers: Julie Gellner, Carmen Strydhorst, Tina Steele, Tera Woolard, and Cristina Milne
# The Dog Project

**A Project by 2-Year-Old Children**  
**at Illinois State University Child Care Center, Normal, Illinois**  
**Length of Project:** 15 weeks  
**Teachers:** Pam Morbitzer, Scott Brouette

## Phase One

**Beginning the Project**

The Dog Project was brought to life by a visit from my puppy Ellie. Her visit initiated discussions that led children to draw pictures, share stories, and bring photos of the dogs in their lives. Several questions were generated from our classroom discussions. Some topics discussed included what dogs eat, how they play, why they bark and bite, and where they go to the bathroom. The idea web showed that the children already knew a great deal about dogs; therefore, my expectations of the project were to build on their current knowledge and to investigate any misconceptions they had regarding dogs.

## Phase Two

**Developing the Project**

Project investigations began by inviting three dogs and their owners to our classroom. The children prepared interview questions for the dog owners such as "what does your dog eat?" and "does he/she bite?" The visits triggered interest in different sizes and colors of dogs—topics later investigated by a small group of children who represented their findings with a comparison chart of the three dogs that they had met.

Another child was particularly interested in the height of Lily, a Saint Bernard that visited. We used his body to measure Lily and the other dogs to see which dog was the tallest and which was the shortest. The children surveyed parents and other friends at our school about why their dogs barked and if their dogs had ever bitten anyone.

Having my stories about Ellie’s growth and development was a great tool for introducing new concepts. When she began losing her teeth, I brought in a few for the children to examine, prompting interest in why teeth fall out. The children discovered that they would lose teeth too.

Throughout the project, I took pictures and posted documentation to keep parents updated and for the children to revisit early phases of their work.

## Phase Three

**Concluding the Project**

As a culminating event, the children created a mural. They sketched and water-colored pictures of dogs we met or dogs in their lives. The children’s paintings were more detailed than at the beginning of our project. Considerable attention was given to facial features as well as to size and color. The mural was displayed in the hallway, and the children took every opportunity to share their work with parents, student workers, and other friends in our building. This project expanded the children’s ability to formulate, ask, and brainstorm inventive methods to answering questions and increased their knowledge of puppies and dogs.
The Dog Project was the most successful project I have ever implemented with 2-year-olds. The children’s interest level remained high throughout the entire project. Several parents commented on the amount of time the children spent talking about dogs outside of school. One girl conducted morning meetings when she got home from school each day. She revisited the events of our day, which was a wonderful example of how meaningful her work was to her. This project reaffirmed my belief in the power of project work and the important dispositions for learning that young children gain through projects.

Kaleigh (2.10 yrs.) drew a picture of Ellie. “I drew 2 eyes for her and put dots on her body by her eyes. I wrote your name (Pam) and Ellie’s name on it.”
The Grocery Store Project
A Project in a Multi-age Classroom of 3-, 4-, and 5-Year-Old Children, three with special needs, at Bright Beginnings Pre-K At-Risk Program, Eureka, Illinois
*Length of Project: 2 months  Teachers: Pam Scranton, Angie Wells*

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<td><strong>Beginning the Project</strong></td>
<td>This topic was chosen by the teacher because the local IGA grocery store was only a few blocks away from the classroom and could be visited frequently during the project. We spent a few days walking to the IGA and talking about the children's experiences at the store. The children had lots of prior knowledge about this topic and focused rather quickly on what they wanted to explore and what they wanted to see on their field visits. Lists of questions and preliminary webs were generated easily because of the familiarity of the topic. The children narrowed their focus to investigating the cash register, the scanner, and the different departments, voicing at once their intentions to build their own IGA when they returned from the field experience. I was hoping that they actually would be able to focus their investigations in such a big store, that they wouldn't be distracted in their fieldwork on site, and that they would come away with some solid information to begin their constructions.</td>
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<td><strong>Developing the Project</strong></td>
<td>As I had hoped, the children became really interested in the scanner and cash register. They were able to actually use both and &quot;ring up&quot; a customer on the field experience! A parent volunteer who was an employee of IGA was our site expert for the morning, and she was able to give the children some experiences that they would not have had otherwise. One child meticulously sketched the IGA sign and spent several days back in the classroom representing the sign using many different types of materials. The other children most interested in constructing the store divided themselves into a scanner group and a cash register group. Children who were not constructing painted signs, labeled shelves, and made money for the cash register. <em>All</em> the children brought in supplies to &quot;stock the shelves&quot;; even the kids who were not really involved in the project were very driven to save empty boxes for the grocery store. The construction took 2 weeks with drawing, painting, and journaling happening in other parts of the classroom, but the core project group was champing at the bit to start playing in their construction. The dramatic play was intense at first, and the children had to decide together to limit the number allowed in the store. One child had the idea to form a list, keeping track of who had a turn and who had not. As this high-quality play progressed, one 4-year-old boy kept up his work on the scanner. He kept experimenting with new materials for the surface of the scanner, wanting that transparent effect, and he kept trying to find a way to get the scanner to &quot;light up.&quot; This little boy would work on the scanner with dramatic play going on all around him, a definite change for a child who was distracted easily before this project. Our parents helped out by saving empty boxes, bringing in sacks for bagging the groceries, and volunteering their time in the grocery store to interact with the children.</td>
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<td><strong>Concluding the Project</strong></td>
<td>As the dramatic play lessened and the constructions slowed, the project group met again and discussed taking apart their grocery store. Because our school year was coming to a close and the children took part each year in putting the classroom away for the summer, the taking apart of the grocery store could coincide with these other end-of-the-year activities. More importantly, the project group and I began discussing ways they could share what they had learned with others. They decided to make and display large story cards, with some of the children describing the pictures and photos on each card. Because our program's annual ice cream social was fast approaching, they decided to try and have the story cards and their dialogues ready for that evening parent activity. For the next week, the project group worked furiously sorting photos and taping them, dictating their descriptions, and practicing for the ice cream social. The parents were impressed that night with their children's knowledge of how a grocery store works and of their intense feelings about what they had learned during this project. After school was over for the year, their story cards were displayed inside the IGA, and the children took great delight in looking at their own work displayed so prominently in their local grocery store that summer!</td>
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As a teacher who has been doing projects with children for several years, it still amazes me how much I learn with every new project. With the grocery store topic, my children had lots of prior knowledge, and we did not have to spend much time developing the topic. It was a very easy start to our project, and I think I'll try to steer towards more familiar topics like the grocery store in the future. But because of the very nature of the Project Approach, one never knows what kinds of interests will develop! I saw children I've had for two years develop new kinds of learning behaviors. What a joy it is to watch children become more confident in their own abilities to investigate and discover what interests them.
# The House Project

*A Project by 3-, 4-, and 5-Year-Old Children*

*at University of Alberta Child Study Centre, Edmonton, Alberta, Canada*

*Length of Project: 10 weeks  Teachers: Sharman Armfield, Lee Makovichuk*

## Phase One

**Beginning the Project**

As we began our school year, we spent time visiting children in their homes. During our home visits, we learned that many families were involved in home renovations, had just moved to a new house, or were in the process of building a new house. Having knowledge of the changes our families were experiencing, we began to plan a project on houses. We felt confident the House Project would provide the opportunity for each child to be an expert and draw in our parent group to share their expertise in the many aspects of a house. As we began to develop a web of the project, we learned that a new roof would be installed on our very own Ring House, the building that houses the pre-K and kindergarten program. After the initial weeks settling into the routine of the school year and developing some familiarity with one another, we began to gather children’s stories and experiences with their houses, homes, and families.

## Phase Two

**Developing the Project**

On the day the roofers arrived, we asked the children, “What do you think they are doing up there?” A group discussion unfolded as children readily shared their ideas and asked questions. “They are sweeping the spiders away.” “The roof was leaking so they are fixing it.” “What are their tools?” “Hey, let's ask them what they are doing up there!” Predicting the children’s desire to talk with the roofers, we had arranged a visit with the foreman. Clipboards in hand, we ventured out to interview the roofers—the first of many visits to the roofing site. The children were interested in the progress made and the materials used. Parents came into the class to share their knowledge of plumbing, electrical tools, and house design. With each visitor, the children’s constructions showed more detail. Families were invited to share favorite experiences. Some families shared storybooks; others shared cooking experiences. Dramatic play developed as children read to their baby dolls, arranged tea parties, and cooked meals. Block work increased in design as small furniture was added. Rooms, hallways, and staircases emerged as children worked together to construct floor plans and house models. Investigation emerged out of questions the children asked. One child asked, “How many floors does Ring House have?” Looking at the radiators in Ring House lead to another investigation to discover how many radiators were in Ring House.

Having been a close observer in the house his uncle had recently built, one child made a photo album of his observations and shared it with the class. As a closure to the renovations in his cabin, one child brought in pieces of materials for his peers to explore, draw, or use in their building. A small group of children explored the "Three Little Pig" story. After many weeks of preparation, the group presented the production to their parents and peers.

## Phase Three

**Concluding the Project**

With the coming December holiday, we planned to conclude our project to coincide with the approaching winter break. Many families had shared aspects of celebrations with stories, food, and music. With input from the children, together we planned an event that would allow the children to lead their families in celebrating houses. Groups of children and their families created detailed candy houses, others designed eye-catching chimes constructed from pipes and miscellaneous metal pieces used in the building of a house. Several families created candles using bee’s wax. Children proudly showed their work and photos to family members.
The House Project was a wonderful first project for our year. It allowed each child to be an expert through sharing and discovery. The project developed through the interest of the group, exploring the components of plumbing, electricity, structure, furnishing, heating, and design. With each field experience and visiting expert, the children demonstrated developing knowledge through increasing the detail in their representational work. We learned that children with limited experience required time to explore and manipulate these materials before using them in a representational way. Providing the materials for the children to explore, then providing information and scaffolding their learning resulted in our awareness of their developing knowledge and allowed them time to develop elaborate representations of their understanding. As a teacher, this process was exciting to witness and be involved in.
The Musical Instrument Project
A Project by 3-, 4-, and 5-Year-Old Children
at Illinois Valley Community College, Oglesby, Illinois

*Length of Project:* 10 weeks   *Teachers:* Marilyn Worsley, Jan Kirkham, and Practicum Students

**Beginning the Project**

Earlier, we had observed many of the children playing toy brooms as guitars and kitchen pans as drums. But before jumping into a project on musical instruments, many questions had to be answered in the minds of the teachers. For example, would this topic be enjoyable to the student teachers as well as the children? Would there be plenty of opportunities for the children to investigate and represent? With these questions answered in our minds, we set out to explore instruments. We began by webbing what the children already knew and focusing on our own classroom instruments.

**Developing the Project**

We gradually introduced many types of instruments into the classroom for hands-on manipulation, observation, and representation. Several experts played their instruments and answered questions. Over time, the children’s interest narrowed to guitars. More guest experts visited with different types and styles of guitars. We were fortunate to have a guitar repair shop and museum in the area that we could visit. While there, the children were able to investigate primitive guitars, open guitars, and instruments related to guitars.

After this visit, several children were no longer satisfied with sharing the one classroom guitar or using pretend guitars. They wanted their own “real” guitars to play. One child, who had recently seen a program on guitar making on television, stated that he knew how to make one. We documented his steps as he planned and constructed his first guitar. However, he was not satisfied with his first model. He had glued the strings to the guitar, and he explained that “If the strings can’t move back and forth, the guitar can’t make any sound.” More materials were added to the classroom project area, and the children built many guitars with free-moving strings.

**Concluding the Project**

To culminate the project, the children decided to display their guitars in the main lobby of the college. We used a digital camera to photograph each child with his or her guitar and then created a mini-display that included the photograph and narrative about the guitar by each child. These mini-displays were placed alongside the guitars. The insights the children displayed through their narratives were even more spectacular than their handmade guitars!
The knowledge and skills the children gained from this project were astounding—from the simple idea of which way to turn a screw to the idea that vibrations cause an instrument to make its sound. The project helped others learn about children. For example, after a field trip, a band director was amazed that young children could draw with such detail. Children began using this tool at home. One child even kept a clipboard with her while watching television, in case she saw something she wanted to remember. I believe this project had a huge impact on many people.
### All about the West Room Hens

**A Project by 3-, 4-, and 5-Year-Old Children**  
**at Bing Nursery School, Stanford University, Stanford, California**  
**Length of Project:** 10 weeks  
**Teachers:** Jane Farish, Mark Mabry

#### Beginning the Project

In September, our class inherited two chickens that had hatched in April. Interestingly, children displayed little curiosity in them. Then in November, to their surprise, they found a brown egg! We observed children studying the hens closely as they collected and counted the eggs. They asked questions and initiated discussions. We recorded these and also noted misconceptions to help draw up research questions. We were intrigued to find that children were not applying their knowledge about birds to the hens, so one goal was to develop more understanding of "birdness."

#### Developing the Project

Children wanted to find out whether hens can fly. They encouraged the hens to explore the climbing equipment and observed, "they hop and flap but they don't fly." After many discussions, one hen was lifted high into a tree, and she did fly down! "Do hens have ears?" was also investigated. Observational drawing, clay modeling, photographs, and library research helped children study hens' anatomy and learn names of body parts. When a visiting expert came with a Light Brahma hen, the hens' similarities and differences intrigued the children. A focus became studying pictures of different breeds, and children used pictures to make a matching game and block play accessories.

Investigation of the eggs started with the question "why are their eggs brown?" Cooking was a natural progression from cracking eggs open to examine them. Eggs were boiled, poached, scrambled, fried, and made into omelets, pancakes, and French toast. Results were tasted, tested, and recorded at snack time. A parent provided quails' eggs to compare with hens' eggs. Groups ate snack outside, attended by the hens, to test theories about what hens eat. They tested food from their snack as well as corn and rabbit food. Observing the hens scratching in the yard developed the children's knowledge, and a final list included grass, worms, and snails.

One child asked the question: "Why don't the hens have names?" as a solution to the dilemma of telling the hens apart. We had been reading hen stories, so another child immediately responded, "Let's call them Henny and Penny," and after charting everyone's suggestions, the children ultimately did vote for these names!

#### Concluding the Project

By March, although there was still unabated enthusiasm for egg cookery and encouraging the hens to fly, the research questions were answered, and the teachers decided it was time to conclude the project. We gathered pictures and words from the ongoing documentation, and the children made a book about Henny and Penny as a culminating event.
This project generated schoolwide interest and involvement. Children from other rooms visited with worms for the hens and to collect eggs for their cooking. The topic resonated with parents who made time to join their children in observing Henny and Penny. We found the children's enthusiasm contagious. From the "crystallizing moment" of discovering the first egg, the children were talking to each other, discussing ideas, and working carefully. We noted them developing analytical skills and observed the value of observational drawing as a tool for children's research and reflection.
Our School Bus Project
A Project by 4- and 5-Year-Old Children
at Timothy Christian Preschool, Elmhurst, Illinois

**Length of Project:** 6 weeks  **Teachers:** Ruth Harkema, Deb Lanenga

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<td>We chose school buses as our topic because we see buses from our playground, the mechanic and bus drivers are accessible, and especially because we felt that preschoolers look forward to riding in buses. We began the bus project by asking children to share their experiences riding in buses, to list what they knew about buses, and to shape their memories into stories, drawings, and clay sculptures. Children then chose a bus part to investigate and dictated questions they had about buses. We hoped children would develop skill representing what they saw, asking research questions, learning bus safety rules, and solving problems together.</td>
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<td>During our first field visit, the bus mechanic gave us a bus ride around campus; demonstrated the stop sign, safety bar, and flashing lights on the bus; and answered our questions. Parents and sixth-grade students facilitated the preschoolers’ investigations by recording answers to questions, carrying equipment, and pointing out details for sketching. After a second visit for repeated sketching, the children began construction of a play bus, each child choosing to build the part she or he had sketched. Children encountered and solved problems in making the bus sides equal in length, matching the height of the driver’s seat and steering column, and constructing a three-dimensional bus front instead of a flat drawing on a small box. As construction continued, children’s questions became more complicated: “What are bus parts made of?” “Why?” “How do bus parts work?” “Does the bus have ‘electric?’” The bus mechanic supplied answers and a tire and rim for closer study, a bus driver brought her bus to our sidewalk to demonstrate the insides and outsides of the bus, and a high school carpentry student demonstrated how to nail the cardboard sections to the wood bus frame. Children cooperated to create, paint, and nail together a 10-foot long, 4-foot high, yellow, open-windowed bus.</td>
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<td>The children planned a celebration to share what they had accomplished. They wrote invitations and counted the number of moms and dads and brothers and sisters planning to attend. The children felt important as their parents viewed bulletin board displays, watched the videotape, listened to their new verse of the &quot;Wheels on the Bus,&quot; boarded their bus, praised their contributions, and enjoyed the wheel cookies that the children had decorated with six chocolate chip lug nuts.</td>
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Things we found most impressive:

- how focused children are during fieldwork as they look for answers to their own questions;
- how repeated sketching helped children’s perceptual growth and understanding;
- how important it is to allow children to brainstorm their own solutions;
- how teacher reflection during the documentation process uncovered children’s growth and needs;
- how willingly fellow teachers, local experts, parents, and upper-grade students helped.

We were delighted by the persistence of two children who were uninvolved last year in daily activities. They worked together everyday, painting, designing the bus front, and suggesting additions to the bus.
The Valeska Hinton Health Center Project
A Project by 3-, 4-, and 5-Year-Old Students
at Valeska Hinton Early Childhood Education Center, Peoria, Illinois

Length of Project: 2 months  Teachers: Judy Cagle, Mary Ann Gottlieb

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<td>Because many children in the two classes (one class of 3- and 4-year-olds and one class of 4- and 5-year-olds) were new to the center, it seemed important to investigate the school, and the children found many areas that were unfamiliar. One 4-year-old boy said that he got shots “at the doctor’s office, not at school.” Additional interest in the health center was generated when the son of the nurse practitioner became a volunteer in one of the classrooms. Initial drawings were made and questions were posed before the classes visited the in-school health center. As questions were asked informally, the teachers recorded them for future investigation. The teachers expected the children to learn how the health center helped them at school and to possibly construct a health center in one or both of the classrooms.</td>
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<td>The children decided to find out why a health center was in their school. They learned about school physicals, inoculations, nurse practitioners, and doctors, as well as how and when to use the health center. They visited our own health center and one located in a nearby school. Health center staff provided additional information and were interviewed by the children. Parents supported their children’s efforts by supplying materials for the construction of the classroom health centers and by accompanying the classes to the field site. Children represented their learning through drawings, paintings, block constructions, and dramatic play. A group of children helped to create a videotape of a classmate visiting the health center and used this videotape as a reference in constructing the classroom health centers. Because groups of children from the two classrooms met and shared ideas, some of their constructed objects were similar. Other children helped write letters to health center staff, parents, and others at Valeska Hinton inviting them to the grand opening of the health centers constructed in the two classrooms. The older children in the 4- and 5-year-old classroom made books about the in-school health center to share with the younger children in the 3- and 4-year-old classroom.</td>
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<td>The children in the project rooms invited other classrooms to see the health centers that they had constructed. Individual children explained the functions of various areas in the constructed health centers and the roles of health center staff. Parents, health personnel, and other school staff were invited to visit and hear the children talk about the project. Within the framework of the Work Sampling System, Valeska Hinton’s assessment tool, the children showed development in several domains. Growth was observed in individual children in their disposition toward learning as they were engaged for significant periods of time while investigating the Valeska Hinton’s health center and while constructing the dramatic play environment.</td>
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Early visits to the field sites helped the children increase their experiences so that they had knowledge on which to build later research in the project. This project was meaningful because it helped the children become familiar with their school’s health center. This project was unique because the children involved were from a multiage classroom of 3- and 4-year-olds and a multiage classroom of 4- and 5-year-olds; friendships developed between the two classrooms as the children worked on this common topic. The teachers found the collaboration to be helpful to the children and to themselves. This project was especially pertinent for these two classes of children because most of them were new to the school.
# The Community Worker Project

A Project by Pre-Kindergarten and Kindergarten Students at Donald C. Parker Early Education Center, Machesney Park, Illinois

**Length of Project:** 3 months  **Teachers:** Susan Andrews, Lynn Wade, Karen Johnson

## Phase One

*Beginning the Project*

The project started while our classroom was doing a thematic unit on dinosaurs. We were learning about the various job duties of a paleontologist, and this discussion sparked further discussion as to what many of the children wanted to be when they grew up. Many of the children showed interest in jobs that were closely related to our community. We webbed as a large group and came up with a list of questions about community workers. We used this list of questions as a guide to assist us in our investigation. Small groups were formed by interest. Each group interviewed one community worker expert. As phase one drew to a close, these small groups presented their new-found knowledge to each other.

## Phase Two

*Developing the Project*

We added to our web all new knowledge gathered from our community worker interviews. Our “experts,” who were interviewed on site, consisted of a fireman, policeman, airplane pilot, weatherman, paramedic, newspaper journalist, school nurse, and school principal.

Next, the children voted on the one community worker they wanted to investigate in depth. The policeman was chosen, and a field site visit to our local police station was scheduled. The children prepared for their fieldwork by participating in small group discussions and webbing. The children dictated questions to the teachers and illustrated these questions for their field site visit.

During the field visit, the children made sketches and took many photographs. These drawings and photographs were used to plan construction. The children represented their learning by creating their own police station. Construction included a fingerprinting station, computer 911 station, a variety of police tools, lockers to store police tools, a police car, and a police evidence van. Dramatic play continued in the police station until our school year ended.

Parents were involved throughout the project by participating in the interviewing process, attending the field site visits, and assisting with the construction of our police station.

## Phase Three

*Concluding the Project*

We concluded the project by presenting our police station to one of the local police officers. It was a joy to see the pleasure the students received when they presented their part of the police station to the officer.

This project helped the children expand their ability to speak in a large group situation, listen, solve problems, and work cooperatively. It provided the children an opportunity to experience a focused investigation and represent their learning in many ways.
This project was our first multiage project, and it was awesome. We learned that, with the support of parents and staff, it is possible to do a successful project combining two classes of different age levels. It took many people to make this project successful, and we thank them all! The topic was great, and there was a high interest level throughout our investigation. It was extremely rewarding to see the children take the initiative in influencing the direction of their work.

The children interview Officer Jones.

Officer Jones checks out the police car.

Construction on the police station begins.

Children work on the evidence camera.
**The Bicycle Project**

A Project by Kindergarten Students at Donald C. Parker Early Education Center, Machesney Park, Illinois

*Length of Project: 3 months  Teacher: Linda Lundberg*

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<td>This project emerged from a warm weather change late in February. The children became focused on outdoor activities, mainly bike riding. Children did drawings, had discussions, conducted class surveys, and webbed prior knowledge of bicycles. Questions were raised about how bicycles were made and put together. Our investigation began.</td>
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<td>Nonfiction books were available as a resource during investigation. A local bike shop owner came to visit and responded to their questions. He brought in a bicycle as it comes from the factory, displayed its parts, and demonstrated the assembling process. Later, children prepared for a visit to the bike shop. They divided themselves into small groups, developed questions, and involved parents to assist them during the fieldwork.</td>
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<td>Using their field notes and sketches, the children reported information to other groups in the classroom. They decided to create a display of drawings, written work, and constructions in an area of the classroom for our Parker Center Learning Fair. Shortly after concluding their study, disappointing news came from the principal. The center's bike path construction would be postponed until a new wing was added to the school. This news created a great deal of discussion in our classroom and extended our bicycle project in a new direction . . .</td>
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The Bike Path.
The work during the bike project led to a new experience directed by the children, which concluded with an involvement that touched the whole school. This project really cemented the importance of children sharing their learning with others. The ownership that the children took in the bike path was truly amazing.
## The Bird Project

**A Project by Kindergarten Students**

at Glencliff Elementary School, Niskayuna Central School District, Rexford, New York

*Length of Project: 8 weeks  Teacher: Abby Weber*

### Beginning the Project

The project on birds was initiated by the kindergartners' great interest in the birds observed at our feeders outside our classroom window. This interest was further heightened in January, when we made bird seed treats for the winter birds, as illustrated in the book *The Night Tree*, by Eve Bunting. One of the teacher's ongoing goals is to plan hands-on experiences to increase the kindergartners' awareness of the natural environment surrounding Glencliff School. A project on birds seemed like a good way to meet this goal. During phase one, the children and teacher shared past experiences and prior knowledge about birds. From our group discussions, we created a web and recorded the information (and misconceptions) we had gathered. The children were then given a variety of materials to work with to represent what they already knew. Finally, using our web and representations, we developed five questions to investigate during phase two of our project.

### Developing the Project

Phase two of our Bird Project began by having children select which of our five formulated questions they were most interested in researching. Based on prior project work, the teacher purposely asked each child privately to select a question to try and ensure that investigation groups were created on a real interest and not just on the other members of the group. We ended up with between four and eight children in each of the groups. The five questions were: (1) What kinds of birds come to our bird feeders? (2) What bird feeder do the birds eat from the most? (3) What kind of food do birds like to eat? (4) How do you identify a bird? and (5) What do birds use to build nests? Throughout phase two, the teacher provided opportunities to increase the children's knowledge about birds by reading books, bird guides, and magazines, and by exploring several wonderful Web sites on birds. The class participated in special events with several bird experts, which included programs on owls (which included seeing three types of live owls and a wildlife artist's drawing), and bird nest building, as well as several bird-watching walks with a parent who is a birding expert. Prior to beginning their fieldwork, the children had the skilled help of several parents and grandparents to help them build several different types of feeders. We ended up with seven different feeders hanging outside our windows. The children did a great deal of sketching and labeled drawings throughout the project. Although we focused on the birds in our area, we did have a pet parrot spend the day in the classroom to give the children the opportunity to observe and sketch a bird up close. Each child had a “Bird Watching Observation Field Book” to take home and record the birds seen in their yards. The parents had fun participating. The children worked enthusiastically doing fieldwork to learn more about their questions. Each of the groups’ fieldwork, data collection, and representations took on different forms that included tally and pictograph charts, sketching, sculpting, designing feeders, and making nests.

### Concluding the Project

The children decided to conclude their bird project by inviting families and other classes to a "Bird Fair" open house to share what they had learned about birds. The teacher worked with each group to help the children decide on the best way to represent what they had learned and how to display it. The children made invitations to the Bird Fair and decided on the best way to distribute them. Next, the children worked with their groups to create displays that represented what had been investigated, how the investigation was done, and what was learned.
This project was one of the most exciting and profound experiences this teacher has ever had with a class of kindergartners in 24 years of teaching. Doing an in-depth project on birds provided the children with an extremely meaningful and powerful learning experience in which many cross-curricular concepts and skills were naturally integrated. The children did not want to stop the project, even after 8 weeks. In fact, one little boy who had been very hesitant about participating in class activities became one of the most positive leaders in this fieldwork group. During the end-of-the-year conference with this child's parents, they shared that the child felt the teacher was "confused." The child stated: "We study birds in kindergarten, that's what we do! What does she think she is doing bringing in tadpoles!"
### Our School

**A Project by Grade 1 Students**  
**at University of Alberta Child Study Centre, Edmonton, Alberta**  
*Length of Project:* 8 weeks  
*Teachers:* Diane Mellott, Margaret Brooks, Angela Farmer

| Phase One | **Beginning the Project**  
The teachers developed an initial topic web based on the children's interest and the social studies curriculum. The project began with readings from a book called *The Littles Go to School*. The children noted that The Littles' school experience was very different from their own. They raised many questions about Our School in response to the book. The class began their study within the classroom, only later to consider the very large University Education Building. They were invited to share their previous experiences with school. They wrote about their kindergarten experiences and drew pictures of their memories. They wondered about the roles of the adults. The teachers recorded the children's questions. Children were encouraged to ask their parents and grandparents about their grade one school experience. |
| --- | --- |
| Phase Two | **Developing the Project**  
The children made careful recordings of different areas of the classroom. As they investigated the classroom, they noticed that the equipment, games, and supplies were logically organized into various areas and shelves. A natural extension of the math concepts of collections and sorting began to develop. Soon they were able to develop their field notes into three-dimensional representations. The children chose paper models, shoe box models, blocks, Legos, and woodworking for their representations. They were able to check and recheck their constructions against the actual structures, and found it challenging to build representations on a smaller scale. Their understanding of spatial relationships developed at an astounding rate as they struggled to fit all the components of the area that they were reconstructing within the parameters set out by the media that they were using. Some children visited the grade 2/3 room and took careful field notes, returning to report their findings to their classmates. Others (using a video camera) interviewed the custodians, the secretary, and our visiting principal. The children were eager to continue exploring more spaces within the education building. The children had previously visited a student lounge located in a far-off corner of the building and drew a map to the fourth floor in order to show the rest of the children the way. Later the class tested the maps, then returned to the classroom to try again. When they finally located the lounge, the class celebrated by bringing their snacks to enjoy under the beautifully vaulted glassed-in ceiling.  
The class also visited another school. The children predicted what they thought the school would be like. Their ideas were related to their previous experiences. Upon their arrival, the children compared notes on their first impressions. They tried out the students' desks, and they took copious field notes as they were keen to begin building once they arrived back at their own school. Later, the children wrote a book about their experiences and developed a Venn diagram comparing the two schools. |
| Phase Three | **Concluding the Project**  
The children invited their parents to tour the classroom and then to join them in the fourth floor lounge for a campfire and evening pot luck. The evening was very much anticipated, and the children ensured that their classroom was up to careful scrutiny of their parents. When the evening finally arrived, the children were very confident tour guides as they shared their representations with parents, grandparents, and friends. |
As the teachers reflected on the successes of the "Our School" project, they found it to be a wonderful way to blend prescribed curriculum with a very meaningful and relevant project work topic. In the process, the teachers were able to gain many insights into the children's thinking, their strengths, and their personalities.
The Kid's Grocery Store  
A Project by Kindergarten Students  
at Westmere Elementary School, Guilderland Central School District, Guilderland, New York  
Length of Project: 3 weeks  
Teachers: Debra Wing, Debbie Biondo

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<td>Children from Westmere Elementary School live in a traditional suburban community. One of the places everyone visits and can meet neighbors and friends is the local grocery store. The local grocery store is a 2-minute walk from our school. The children often talked about going to the grocery store with their parents. I thought the grocery store was a worthy topic because of the children’s experiences and because the store's proximity to the school allowed repeated visits and close examination. I began the project by asking the children to share a grocery store story with one another. Some of those conversations were recorded on a class experience chart with names printed next to each story in case further clarification was needed. After a short modeling and discussion of a memory sketch, each child was asked to draw some part of the grocery store. I told the children that we would be returning to sketching on a number of different occasions throughout our study of the grocery store.</td>
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<td><strong>Developing the Project</strong></td>
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<td>At our class meeting, children added ideas to a class web that reflected areas of interest and study expressed earlier through discussion. Children were asked to select an area of study that they wanted to find out more about. We divided into six working groups: (1) Cereal Group—“How many kinds? What kinds are kid’s favorites?” (2) Chocolate Group—“How many treats are there with chocolate? What are some of the chocolate foods? Where can chocolate be found around the supermarket?” (3) Check Out Area—scanning, bagging, paying at the cash register, and grocery carts; (4) The Video Department—“What movies can you rent? Does the store have favorite kid movies?” (5) Prepared Foods—“What foods could you buy and bring right home for dinner? How were the foods packaged? Did they have kid’s favorite take out food?” (6) Ice Cream—“What flavors could you buy? What specialty ice creams were available? Did kids prefer chocolate or vanilla ice cream?”</td>
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<td>Two moms accompanied us to the grocery store where we began to observe, photograph, and sketch to obtain information and answers to some of our questions. Prior phone calls to the store allowed some of the different section managers to meet our small groups and share some special information. The children brought back many additional questions to the classroom after that visit, and they were sorted and added to the project web. One of our parents was a chef at a local restaurant, and he came into class to demonstrate cooking for the “Prepared Foods” group. A weekly newsletter was sent home to the parents with many photographs and descriptions of our project work. Parents were asked to send in empty product boxes, cans, packages, and store circulars and coupons. It was decided that each group would re-create their part of the store for our grand opening and celebration of our project work.</td>
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<td>We celebrated all of our information gathering and representation by having a working grocery store in our classroom. The grocery store was open every day while we were involved in the grocery store project. Much rich dramatic play evolved. Our culminating event was a special day to have the parents and our fifth-grade book buddies visit. They were invited to shop at our “Kid’s Grocery Store.” Much preparation went into creating the shopping baskets, pretend money, check-out counter, aisles where food was displayed, many scrumptious looking prepared dinners, and video selections. The Kid’s Grocery Store was open for an hour in the morning and an hour in the afternoon. We displayed all of the information gathered through direct observation and surveys. We had numerous Venn diagrams showing favorite food selections, bar graphs showing the different choices in food groups, and stuffed replicas of fruits, vegetables, and fish. Many signs were made to label various parts of the store and different food products. The children worked with marked enthusiasm and purpose. Children who could write helped less-developed writers with their signs and displays. There was an extremely purposeful tone in the class as we approached our big guest shopping day!</td>
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It was wonderful to see how such an ordinary experience—grocery shopping—evolved into a topic of such detailed investigation. I felt particularly proud of the way the children began to ask questions and raise further areas of study as we dove deeper into the topic. We did this project when the children were young 5-year-olds, and many of them did not have well-developed writing or drawing skills. Because these skills were woven into the representation of our store, the children, many reluctant and self-doubting writers and sketchers, began to see their contributions as valuable and needed. As in the life of most projects, it is difficult to know when and how to disassemble the project. This class was reluctant to take anything away. On a Friday after our guest shopping day, we discussed and decided on taking down the largest parts of the store, and they were stored away or given to children to take home. After the weekend, when the children arrived back at school, the first thing a group of students proclaimed and got right to work on was re-creating “that great grocery store!”

The “check-out” cash register and office.

The prepared dinners.

The video section.

Blocks representing all of the cereal choices counted at the grocery store.
The Library Project
A Project by Kindergarten Students
at Cherry Tree Elementary and Orchard Park Elementary, Carmel, Indiana
Length of Project: 3 weeks  Teacher: Candy Ganzel, Jan Stuglik

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<td>We decided on the library as a project for two reasons: (1) we taught in the same school district but in different buildings and wanted to do a project together with our classes that would have easy access to fieldwork; and (2) we had a new library in our community that many of the children visited and were excited about. We started by having many discussions in our respective classrooms about the library. We also had the children draw about their library experiences. Each class then made a web about the library. From this web, the children decided what they would investigate, and the teachers helped each classroom divide themselves into groups. Our next step was to meet at the library. The areas the children decided to investigate were check-out and check-in, furniture, coffee shop, gift shop, kinds of books, parts of a book, computers, people in the library, and the building.</td>
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<td>For the beginning of phase two, the two kindergarten classes met at the library and divided into small topic groups. The library had plenty of space for us to meet and work in our small groups. In these groups were children from both schools. The children formulated the questions they would like to ask the librarians, and a librarian took them around the library to answer their questions. They also had plenty of time to sketch. Once the children had their questions answered, they came back to the gathering area and discussed the information they had learned. We had one adult to help facilitate each group. The children also had time to process the information and discuss how they might represent what they had learned. The next week, the children traveled to Jan's classroom to work together for the entire day. The children first got back into their groups to discuss the information, view the pictures they had drawn, and look at the photographs that had been taken. The children then decided how they would represent what they had learned. Our next goal was to help them gather the materials they needed and to give them most of the rest of the day to work. The children decided to represent what they had learned by building a conveyor belt, making bookshelves and a computer, and drawing the library building. They also made a book about what types of books are in the library; posters of the check-out counter, gift shop items, parts of a book, and the coffee shop; and models of the furniture. Some of the projects were displayed at Orchard Park and some at Cherry Tree.</td>
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<td>Because two schools were involved, we decided that the culminating event needed to be in a neutral place so all parents would feel comfortable attending. We decided to hold the culmination in our school district's main office. We set up a museum-style event. The project was set up around the room with typewritten explanations of what was happening in the pictures and in the displays. The children dictated most of these explanations. The parents and children came after school to view the projects. We made a tour brochure with open-ended questions for the parents to ask their child. These questions helped the children to know what was important to tell their parents about the projects. The parents and children were very excited to see their work and the work of others.</td>
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Doing a project with children who were not in the same classroom and school was a wonderful experience. It was great to see how well the children worked together even though they had never met. It was really good to see that the children knew how to do project work and were able to carry out the project with others whom they had just met.

One of our biggest surprises was how well the final products turned out. The children only had one day to decide upon and complete their final product. The children's high-quality work was really well thought out by all of the groups.

One of the challenges of this project was trying to coordinate two schools and their schedules.
Using the School's Learning Center to Support Project Work
30 Classes of Kindergarten and At-Risk Pre-kindergarten Students
at Donald C. Parker Early Education Center, Machesney Park, Illinois

**Length of Project:** 1 time per week for 25 min.  **Teacher:** Nancy Plate, Learning Center Teacher

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<td>Projects have been initiated in the Learning Center in several ways. Some have begun with a teacher-planned catalyst such as bringing in an ant farm or displaying tools used by our custodian. Other projects have sprung from unexpected events such as having 20 young trees donated to the school or inheriting a very large gold fish.</td>
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Typically, I begin our work with whole-class webbing. Using these discussions, I note what areas individual classes show interest in and work to help the students expand their experience and knowledge in those areas.

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<td>Even with time and space constraints, there are still ways to offer many types of project experiences to students. I do whole-group work with webbing, discussions, generating questions, and background reading. Centers that are set up around the room are used to accommodate small groups for observational drawings, first-hand explorations, interviews, surveys, detailed reading and research, and construction. At times, teachers have allowed me to take students out of their classrooms to do additional individual work. This experience is very rewarding for the student and often results in an “Ah ha!”</td>
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Resources for our projects vary. Naturally, books are always available from our Learning Center and the local library. We are fortunate to have classroom access to the Internet. I try to have artifacts or firsthand experiences for the students to investigate. Experts have been called upon and interviewed by both the students and me.

Because of timing and logistics, field visits must be confined to the school building and the immediate outside area. This limitation has not been a problem with the topics we have studied.

I try to document the students’ work as the project progresses using space in the Learning Center for display. Often from viewing these displays, students from classes that are not involved with the project become interested in the material.

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<td>We conclude our projects by “publishing” the students’ work in notebooks. These notebooks are processed as library materials and are available for the students to check out. This procedure enables students to share their individual contributions as well as the collective work of the class with their parents. When viewing these notebooks, students and parents see not only the result of student learning but, more importantly, the process of investigation. Readers see learning represented in the form of text, drawings, graphs, and photos showing constructions and problem-solving situations.</td>
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Each project brings its own unique challenges and learning. As a result, I consistently see growth in both the students and myself. There is always at least one student who shows a tremendous extension of self-confidence and learning during a project. One of the biggest hurdles I find is taking time for daily reflection. As difficult as finding this time is for me, I feel doing so is of the utmost importance for successful project work. Daily reflection helps me to stay focused on where the students are and where I might take them next.

Observing the ant farm.

Constructing an ant colony.
### The Restaurant Project

**A Project by 6- and 7-Year-Old Students**  
**at Westmere Elementary School, Guilderland, New York**

**Length of Project:** 6 weeks  
**Teachers:** Dorine Phelan, Robert Whiteman, Lynne Haley, Angie VanDerLinden

| Phase One | **Beginning the Project**  
The location of our school along a suburban shopping district and the generosity of a parent who owns several local restaurants made our topic selection easy. With two first-grade classes in adjoining rooms, we were certain that we could manage the many project groups that would inevitably stem from the topic by combining spaces, teaching assistants, and parent volunteers. The students and adults spent much time in this first phase sharing stories and experiences from restaurants and other locations where food is consumed (e.g., food courts, supermarkets). After this initial sharing, students were asked to sketch, from memory, a place where they had eaten out. These sketches were shared, and the teachers wrote the ideas on Post-it notes, without attempting to group ideas. Later in phase one, these notes were used, along with new ideas and questions, to create a class web. With the guidance of the teachers, the notes were easily moved around into categories, such as the kitchen, the menu, and the wait staff. |
| --- | --- |
| Phase Two | **Developing the Project**  
The children suggested sites we could visit and experts we could interview for fieldwork. One child naturally suggested his father, who owns a restaurant and a bakery in a nearby shopping plaza. We also contacted a chain restaurant and a gourmet shop in the same plaza so we could make one trip but visit all four sites while we were there.  
Guided by teachers, teaching assistants, and parent volunteers, groups visited the sites that would best answer their questions. Armed with clipboards, pencils, planned questions, and digital cameras, groups investigated each facility, interviewing chefs, managers, wait staff, and bakers. Children took notes, made observational sketches, and asked questions, while teachers took digital photos and asked further guiding questions.  
Upon returning from the field sites, the children shared their sketches and notes with each other. They wrote captions for the digital photos and organized all that they had heard and seen. The children decided that the best way to represent what they had learned was to re-create a restaurant in our adjoining classrooms. Groups made models of food from clay; set up tables with place settings; set up a bar with its many glasses; built and stocked a wait station; made menus; created a cash register and hostess stand; and built the kitchen with its wood-fired pizza oven, prep stations, and dishwasher. The children frequently referred to their sketches and digital photos to guide their representations as they worked. Much productive talk showed how they were applying what they had learned on site to make their displays as realistic as possible. |
| Phase Three | **Concluding the Project**  
It was only natural that once the restaurant and its kitchen were built we should have a grand opening and invite “customers.” It was the students’ idea to invite their fifth-grade buddy classes. With the restaurant opening looming, work intensified, and the students added missing elements. On opening day, the customers were greeted at the door, handed a menu, and shown to a seat. As their orders were taken and the kitchen worked away, the noise increased, and the ambiance created by the student singing in the corner was quickly lost. Workers got confused, and job descriptions were forgotten. After the initial visitation, both classes sat down to discuss some of the problems and their solutions, and they participated in a “rehearsal.” By the time the second group came, the restaurant was running more smoothly, and the customers seemed less frazzled. Parents and families visited the project during a “morning coffee.” |
Some children who had not yet shown a great deal of confidence or a particular area of strength seemed to “come into their own” during this project. Also, the success of our fieldwork, which we needed to complete in limited time, was due to the parents who owned the businesses and the other businesspeople understanding what the children needed to accomplish during their visits. We had introduced parents to the Project Approach through weekly newsletters and parent workshops, and we had contacted the other businesspeople before our field trip to “educate” them with respect to project work. In retrospect, we wish the children had more of an opportunity to express the facts and information they learned in a more succinct way during the culminating event. The role playing of the restaurant in action was hectic at times, and some of the information was lost in the shuffle of the excitement of the visitors. We noticed that students demonstrated their knowledge and skills most prominently during phase two, as they worked cooperatively in groups to represent their learning.
## Studying Our Community
A Project by Second-Grade Students
at Grafton Elementary School, Grafton, Illinois
Length of Project: 3 months Teacher: Dot Schuler

### Beginning the Project
As our Animal Project approached culmination, children began discussing ideas for the next project. Perhaps because of our local eagle-watching field experience, the topic of our own community, Grafton, gradually became one of unanimous interest. After creating a topic web and telling personal stories, children began contemplating and documenting ideas for open-ended questions about Grafton. The teacher encouraged children to formulate questions for investigation. Several local buildings of interest became potential small-group investigations. Questions about local vegetation and littering were also expressed. Essays describing questions for investigation and sources to be used were drafted, proofread, and published for display.

### Developing the Project
The mayor visited our classroom, bringing photographs of local historical buildings. A walk to locate the buildings followed her visit. Based on questions formulated in the children's essays, we also visited places of interest to the children: the local grocery, bait shop, two gift/antique shops, three churches, City Hall, and a bed-and-breakfast inn. Frequently, community member passers-by would stop to answer the children’s questions or invite them into their places of business. Children used clipboards to hold notes, observational drawings, and rubbings of historical markers. After each walk, the teacher recorded children’s collective notes on chart paper and displayed them for reference. While several small groups investigated local buildings, other groups chose to learn about the Illinois River and local plants and trees. Our collective notes and sketches were resources for children building scale models, writing books, and making webs of information about local buildings. Using historical documents, a time line was made to show the building or razing of educational buildings on school grounds. The group studying the river used data from the Internet to make a map of the confluence of the Illinois and Mississippi Rivers and a Venn diagram comparing and contrasting the two rivers. Interviews were used to collect data and create mobiles to represent local trees and plants. One child wrote an acrostic poem about littering, making enough copies to hang in local store windows. He also wrote a letter of concern to the mayor.

### Concluding the Project
Culmination began in the school cafeteria where family, school, and community members gathered for refreshments. Then, second-graders accompanied their guests as they toured the classroom. Printed copies of our book *Things about Grafton That You Never Knew* were purchased by many attendees. Additional copies were sold at local stores throughout the year. As a result of the litter investigation, the mayor donated a trashcan for the front of our school building in order for the children to help keep the community clean. The following day, our class toured the town with plastic bags, collecting litter and depositing it in local trash receptacles. Not only had they learned from each other through small-group investigations, but also they learned firsthand about being responsible citizens.
Our Grafton project had emphasized the enthusiastic availability of local resources. When studying a topic in the immediate environment, as in project work, parents and community members share a special interest. In addition to community support, our building principal accompanied us on one of our walks. Afterward, he shared his interest in noting how diligently the children worked on taking notes. The children became especially aware of various individual talents as they helped each other work on representations. They each exhibited togetherness, group entry skills, and concern for completion, as those who were finished eagerly asked others if they needed help. Studying our local community had emphasized the camaraderie of our own classroom community.

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<td>Children revisited several local buildings to record more notes and observational drawings.</td>
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<td>Two children worked diligently on a scale model of the local fudge shop . . .</td>
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<td>At culmination, second-graders escorted guests around the classroom and explained the various representations.</td>
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<td>while one member of the interest group worked on writing a book about the shop.</td>
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The Book Project  
A Project by Second- and Third-Grade Students  
at the University of Alberta Child Care Centre, Edmonton, Alberta, Canada  
Length of Project: 12 weeks  Teachers: Julie Gellner, Carmen Strydhorst,  
Tina Steele, Tera Woolard, Cristina Milne

### Beginning the Project

The seeds of the Book Project were sown the year before it was launched. At that time as part of a comprehensive writing experience, the children wrote and illustrated original stories, and then we published each book in hardcover editions. On a "Meet the Author" evening, Dr. Chard and Julie Gellner started to talk about the possibility of extending this experience from the writing and illustrating of a book to an in-depth study of all aspects of books. As we talked, it became evident how rich this study could be. The possibilities for areas of inquiry were vast. During the early phase of the project, the children represented their existing knowledge of books in many ways, including surveys and graphs of their favorite books, authors, and genres; webs about the life of authors they had read; detailed maps of local bookstores; comprehensive lists of what they already knew about books; and drawings of scenes from favorite books.

### Developing the Project

As the research in phase two began, the children’s interests led them to diverse explorations. One group looked at illustrations and found that illustrations come in many forms and materials. They created illustrations using a variety of materials. In the research process, they interviewed a local illustrator. Some of the questions they asked were whether the text or the story comes first, what kind of equipment is used to reproduce 3D pictures such as collage, and do authors and illustrators meet in the process of collaborating on a book. Another group, spurred on by their love of specific books, decided to do an in-depth study of the works or life of Laura Ingalls Wilder and Mary Pope Osborne. A contingent of Harry Potter enthusiasts came up with the idea of creating a display based on the Potter series. They highlighted characters, artifacts, and a fantasy game called “Quidditch” central to the action of these books. Flying brooms were fashioned of raffia and dowels, and the magical winged balls were built of clay and pipe cleaners. Modified rules for the flying sport were listed and carefully outlined. Finally, the builders in our class worked together to construct a small library that would be the future home of the wonderful novels the children were writing at this time and would later publish as a culmination to the entire project. Throughout this phase, we had visiting experts and field visits to help the children with their research. Some highlights were our visit to a bookstore, the public library, and a local printing company. Our visitors included the children’s book illustrator mentioned above, a content editor who had recently completed a children’s sports series, one of our fathers who “dissected” a book so that we could examine how it was “built,” and Dr. Chard, the Director of the Centre, who shared a collection of her original watercolor images chronicling her day-to-day life. These paintings form the borders for letters to her grandchildren who live in other parts of the world.

### Concluding the Project

The Book Project concluded as it began—with a celebration of the children’s published writing. In this last stage of the study, we worked on the publishing process as stories were brought to publication standard, illustrations were completed, books were formatted, and children had the experience of experimenting with many designs for binding their work. Parents enthusiastically took part in this culminating experience by joining together one evening for a work bee to create the hardbound copies of the books that would be shared on the Meet the Author night. On the night of this celebration, the children wore several hats. As authors, they shared their unique publications with great pride, accomplishment, and tenacity—reading and rereading for the many visitors who delighted in the stories. As researchers, they took guests around to the various bulletin boards and display cases showing their own work and the work of their classmates. They graciously answered questions that arose about the work displayed and the process of writing a book. And as guides, they walked their guests through the impressive gallery of images and constructions highlighting the illustrations made of plasticene, fabric, found objects, natural objects, watercolor, and colored pencil.
Because the Child Study Centre has had a grade 3 group for two years and a grade 2 group for three years, many of the learners who participated in the Book Project have spent as many as four to five years—all the years of their formal schooling—working with the Project Approach. Visitors to the site were impressed with the ease with which the children suggested and carried out ideas for multiple representations to show what they already knew about the subject of books. The sophistication and number of high-level questions generated to guide their own study was a revelation to both outsiders and our team as well. As the research process developed and deepened, the children’s abilities for collaboration, negotiation, risk taking, and creativity indicated the possibilities that can occur when children are seen and valued as co-creators in the learning environment.