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## ABSTRACT

Standards documents produced by professional educational organizations on the best ways to teach reading and writing have been synthesized by Zemelman, Daniels, and Hyde (1998). They recommend that teachers provide: more active learning in the classroom; more diverse roles for teachers; more emphasis on higher order thinking; more deep study of a smaller number of topics; more reading of real texts; more choice for students; more cooperative, collaborative activity; and more heterogeneously grouped classrooms. One teaching approach which meets all the criteria and is particularly effective is project-based learning. Projects take the idea of related information a step further by encouraging a more in-depth study than either units or themes. The teacher organizes all activities for a week around the topic of "apples." In a theme, children might study autumn, with the teacher loosely organizing all activities around this broader subject. In projects, the topic is more related to the students' personal experiences and interest with a research-based approach. An example of one project is students studying the trees surrounding their school and producing a field guide for other classes to use. In each project, students direct their own learning with teachers providing support for student planning and implementation of the projects. For students involved in projects, reading and writing takes on different meanings than in more traditional classrooms--they learn that they can find fascinating facts by reading or listening to someone read, and they can record these facts and read them to someone else. (NKA)

# Real-World Reading and Writing through Project-Based Learning

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## **Real-World Reading and Writing through Project-Based Learning**

Teachers searching for the best ways to teach reading and writing would do well to refer to standards documents produced by professional organizations such as the International Reading Association (IRA), the National Council for Teachers of English (NCTE), and the National Association for the Education of Young Children (NAEYC) (IRA/NCTE, 1996; IRA/NAEYC, 1998). Each document describes how children learn most effectively. The documents also detail approaches that teachers can use to support the way children learn best. Authors Zemelman, Daniels, and Hyde (1998) synthesized these documents, as well as those from other content areas, and recommend that teachers provide:

- more active learning in the classroom,
- more diverse roles for teachers, including coaching, demonstrating, and modeling,
- more emphasis on higher-order thinking,
- more deep study of a smaller number of topics, so that students internalize the field's way of inquiry,
- more reading of real texts,
- more choice for students,
  - more cooperative, collaborative activity, and
  - more heterogeneously grouped classrooms (p. 5).

While several teaching approaches would satisfy these criteria for good teaching practices, one method of teaching meets all the criteria and is particularly effective: project-based learning.

For years, teachers have been encouraged to teach using themes or units. These methods integrate classroom experiences to help students relate

information and educational activities to each other. However, projects take the idea of related information a step further by encouraging a more indepth study than either units or themes. Katz (1990) explains the difference between units, themes, and projects like this. In a unit children might study apples. The teacher organizes all activities for a week around the topic of apples. In a theme, children might study fall, with the teacher loosely organizing all activities around this broader subject. In projects, the topic is more related to the students' personal experiences and interests with a research-based approach. An example of one project is students studying the trees surrounding their school then producing a field guide for other classes to use.

Project topics can be as varied as the interests of the children in any given classroom. Educators have written about projects such as "buses we ride to school" (Katz, 1990), "our city in the rain" (Edwards, Gandini, & Forman, 1993), or "a museum exhibit about rocks and fossils" (Diffily, 1996). Projects planned and implemented by students in one elementary school include:

- planning and creating museum exhibits,
- laying out and distributing class and school brochures,
- creating board games,
- researching and purchasing classroom pets,
- scripting and producing informational videotapes,
- studying fish and setting up aquariums for the school,
- establishing a business to make and sell bookmarks, and
- organizing a district-wide conference for student authors.

In each of these projects, students directed their own learning with teachers providing support for student planning and implementation of the projects.

In implementing these projects, students went far beyond textbook reading and writing answers to questions. They investigated topics by reading information from real-world sources – expository trade books, magazines, internet sites, brochures, and pamphlets – and created real-world types of writing - business letters, memoranda, email, proposals, and brochures. More than a collection of skills to be practiced, reading and writing became tools for learning and sharing what they had learned.

While children all worked toward a common goal, projects allowed individual contributions for all students in any given classroom. This type of learning experience promoted large and small group discussions, planning, and cooperative implementation of plans. It also offered multiple opportunities for children to share what they had learned.

A kindergarten class decided to create a museum exhibit about reptiles. They read and responded to many different fiction and nonfiction books about reptiles, but their reading and writing experiences were much broader than this. They listened to dozens of books about reptiles, looked at pictures in adult books, and examined pamphlets, brochures, handouts, and informational sheets with the help of more competent readers. They wrote memos to administrators to gain permission for field trips, and letters to a local museum and a zoo asking about field trip details. In the process of the project, they wrote business letters and email to experts in several different cities to ask questions about reptiles and thank you letters to adults and older children who worked with them. For the exhibit itself, they wrote label copy for a photograph display and for their drawings and paintings of reptiles, and they created an exhibit brochure.

As it came closer to the deadline for their museum opening, a student

committee designed an invitation to send to parents, grandparents, friends, and volunteers. Older students helped them look up addresses in the telephone book and in the school directory. They addressed their own envelopes. Some students worked on a memo to teachers in the school inviting their classes to schedule a tour of the exhibit. They also developed a system for keeping up with which classes had responded to the memo and when different tours were scheduled.

The day of the family/friends opening, more than 60 adults crowded into the museum exhibit. The excitement of the kindergarten students was evident as they acted as docents for their family members and other adults who came to the opening. The rest of the week was spent in giving tours to other students in the school and visitors to the building.

Once children have worked through a few projects, they begin to see opportunities for project work. Rather than wait for the teacher to orchestrate their learning, students take the initiative and accept the responsibility for discovering information and solving problems. For example, a first-grade class became interested in hurricanes after hearing about one student's aunt who lived through a hurricane they had heard about on newscasts. They worried a hurricane would damage their city. After their teacher read several books about hurricanes, they were no longer worried about a hurricane threat. Instead, they became concerned that younger children would not know that hurricanes could not reach their city. They thought the books they had heard as first graders might be too hard for the kindergarten students to understand. Using their past experiences as readers and writers involved in projects, they decided to research and write a script for their own videotape for younger children.

The teacher saw this as an opportunity for the students to further develop

research skills. For the next few weeks, the children investigated hurricanes. They read books, had books, magazines, and newspapers read aloud to them, watched commercially-produced videotapes, gathered information from relatives in Florida after developing a list of interview questions. Children recorded hurricanes facts they considered important. From these facts, they worked in groups to write scripts, practice reading what they had written, and revise the scripts. Finally, they created posters as visuals for their spoken words and arranged for a parent to come into the classroom to videotape their final reading. A copy of the videotape was given to all the kindergarten classes, and another copy was placed in the library for check-out.

A second-grade class initiated a project that began with one simple question and continued for more than three months. When algae began growing in the class aquarium, several students decided to figure out what to do to solve this problem. One student talked with his father. Two other children convinced their families to take them to a local pet store. They talked to the owner of the store about algae growth. One student went to the public library to look for books that would answer the question about algae, while another bought a book about caring for fish.

Each student returned to school on Monday with notes they had taken about possible causes and solutions. The two who went to the pet store also brought back brochures about setting up and maintaining aquariums. These student-researchers spent most of the morning sorting through what they had discovered, but they were frustrated with adult level books and brochures. Trying to make sense of the text required several references to dictionaries and several queries to their teacher. While they did manage to make sense of some of

the text, they discovered the information they could understand more easily was from the interview with the one father and the pet store owner. After two hours of discussion, the students decided to present the possible solutions to the class and take a class vote on the action they would take. They briefly described the problem, the resources they had investigated, and the solutions that they found. The class voted to try the least expensive, easiest solution first. They bought aquatic snails which are known for eating this kind of algae. As the students watched over the next several days, their solution did, in fact, work. The more the students observed the fish in the aquarium, the more interested the whole class became in aquatic life.

Over the next three months, the students in this class researched different types of aquatic life, raised money through selling bookmarks and greeting cards they created themselves, and bought six aquariums to be filled with a variety of fish, frogs, snails, crayfish, and plants. As with their attempt to answer the original question, their research through printed matter was equally frustrating. As a class, they decided to produce brochures that were informative but more understandable. Over several days, six different committees drafted, revised, and finalized brochures which explained how to set-up and maintain each of the aquarium habitats they had created in their classroom. These brochures were placed in the school's library for anyone to check-out, copy, and use as a resource.

In each of these projects, the students researched a topic that interested them and then produced a product to inform others. In the first case, the product was a museum exhibit. In the second case, it was a videotape. And in the third case, it was a series of brochures. In each project, the students examined adult

models to determine the characteristics of effective exhibits, informational videos, or brochures and tried to incorporate those characteristics into their own products. Throughout the projects, students wrote about what they were learning, formulated questions, and used multiple resources to answer those questions. The children had many opportunities to follow their interests related to the project topic and make choices about the portions of the project they would work on. They worked individually, in small groups, and as a whole class, to make plans and implement them. Throughout the projects, students were involved in reading and writing that enabled them to learn information and present it to others. These types of reading and writing were not dictated by the teachers nor was it skills driven. Skills were not abandoned in the projects, but were taught as students encountered the need for them in the context of their project work.

Projects are student-directed, yet the teacher's role in them is very important. Teachers promote learning in many ways. They guide students in selecting a project that is doable. Teachers gather children at the beginning of project time to survey the group as to what they will be doing that day. Teachers raise questions, help children think through problems, support children's decisions, guide their work, and teach specific lessons to enhance what children are learning. During project time, the teacher circulates among the children to monitor efforts helping when needed. Afterward the teacher helps children reflect on their work for that day and to plan what should happen next.

For the students involved in these projects, reading and writing took on different meanings than in more traditional classrooms. They learned that they could find fascinating facts by reading or listening to someone read from a

variety of books. They learned that they could record these facts and read them to other people. They learned that they adults would respond to their letters with answers to their questions. They learned that they could create products that other people took seriously. Through their involvement in real-world reading and writing - and by creating a museum exhibit that people came to tour and videos and brochures that people checked out of a real library - these students learned that they could do important work.

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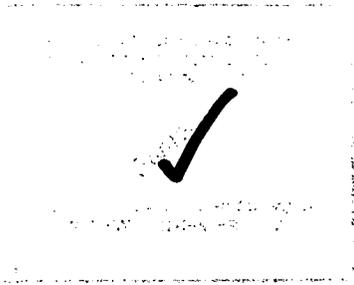
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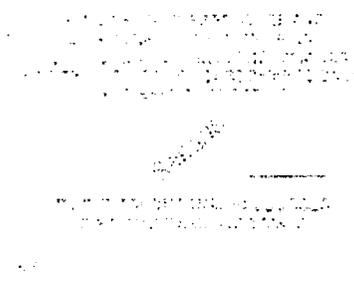
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