How an Urban School Promotes Inclusion

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Using an integrated curriculum anchored in science and technology, Project LINCOL'N facilitates active learning for all its students. Lincoln School, a center for 5th and 6th grade students in Springfield, Illinois, serves an area that encompasses all income levels, from the most expensive subdivision in the city to a public housing project. Approximately one-third of the students are ethnic minorities and two-fifths receive free or reduced-price lunch. Twenty percent of the students have disabilities, including learning/language disabilities, behavior disorders, hearing impairments, and physical limitations. For several others, English is a second language. Here, all teachers work in collaborative teams to provide an inclusive curriculum and learning environment for almost 400 diverse students through a site-based initiative called Project LINCOL'N (Living In the New Computer Oriented Learning 'Nvironment).

The vision of Project LINCOL'N is to enable all students, including those with disabilities, to engage in authentic learning in a problem-solving environment. To make this happen, the school adopted three agendas for reform. First, educators must create an integrated curriculum that allows students to focus on carefully selected themes and concepts (Lewis 1990). Second, students must become active learners, constructing their own knowledge and understanding through the interaction and support of people and tools (Sheingold 1991). Third, multimedia technologies must be incorporated into the curriculum because they have significant potential for supporting an integrated curriculum (Willis 1992) and for encouraging active student learning.

A Project for Everyone
As you walk into the classrooms during the last weeks of a quarter, students are busily working on the culminating science projects in which they integrate and apply knowledge and skills they have gained in all academic subject areas. The 6th grade theme for one quarter, "Our Living World," dealt with the study of biomes at the global, national, and local levels. After previewing each biome, students picked one topic on which to focus. Upon choosing the desert as the focus of their project, Abby, Angela, Lacurre, and Justin, traditionally labeled as average, learning disabled, slow learner, and gifted, became simply "the desert biome cooperative learning group."

Each member is responsible for an individual portion of the project; the team is responsible for a final presentation in which students must identify, analyze, and evaluate plant and animal adaptations; draw conclusions about survival in various biomes; infer from knowledge about climate, weather, and geography differences in lifestyle and population; and evaluate the role of humans in the preservation of this biome. A tall order, some might say, for 6th graders with such diverse abilities, yet the faculty has prepared these students to engage in this inquiry-based learning assessment. The desert group, both as a team and as individuals, set long-term and daily goals for action. As facilitators and coaches, the teachers helped the students reach their goals.

Integration and Inclusion
The use of an integrated curriculum is key to including all students in the learning process. Students use the knowledge they have gained in each subject to help put their group's final project together.

Science. Students developed a knowledge base about the basic composition of living things—the cell, the kingdoms of living things, and biomes—through hands-on activities and video-enhanced instruction, including a laserdisc-based science series. Depending on their abilities, students used several types of reference materials, from the science textbook to electronic encyclopedias, including a standard electronic encyclopedia and a high interest/low reading level encyclopedia with an easy-to-use feature for taking notes.

For example, Abby used an interactive computer laserdisc program to discover desert animals' behavioral and structural adaptations. Her clips from the laserdisc illustrated the group's oral presentation.
Social studies. The 6th graders focused on world geography as they surveyed the continents of "Our Living World." Activities such as "The Seven-Day Travel Tour" emphasized map reading and research skills. Teams planned an itinerary that included five locations in three countries in Europe or Asia. Students had to locate information about climate and physical features of different countries, designate tourist attractions at each stop, and discover at least one interesting recipe or food item. They used books, an electronic encyclopedia and almanac, and the Internet to develop their knowledge base. To access the Internet, students used Mosaic, a graphical interface that makes the complex network easier to use. This hypertext-based information browser saves addresses of places worth "visiting," allowing students to go on electronic expeditions to locations preset by teachers on the basis of individual students' abilities. Using other software, students developed travel brochures, newsletters, video travelogues, or computer/laserdisc programs "selling" their tours. Angela used her new research and map skills to complete her portion of the project. She compared the geography of the desert regions of North America and Africa.

Math. After reviewing numeration systems and place value in whole and decimal numbers, students used data collection, graphing, and problem-solving strategies while working on their culminating project. In an extension activity, students gathered information on local weather conditions from the newspaper, entered it into a database, and analyzed computer-generated graphs.

Using different computer applications, from a simple program that limits data and focuses on basic graphs to a more sophisticated program that utilizes spreadsheets and multiple variables, allowed all students to learn the math concepts while practicing at a level appropriate to them. For example, Lacarren developed double bar graphs to compare seasonal temperature ranges between the desert and our own deciduous forest biome, and triple line graphs to compare yearly rainfall in three desert regions around the world.

Literature. After reading stories such as The Black Pearl by Scott O'Dell or Kon-Tiki by Thor Heyerdahl, students discussed the characters' actions, reactions, and beliefs concerning the environment. Students cultivated reading strategies, such as skimming and scanning for information, and writing strategies, such as comparing, contrasting, and describing. Forming Literature Circles, students practiced these strategies while reading books that were on their own level but still reflected the curricular theme. Both the special education and regular education teacher monitored several reading groups, and together they led class discussions that involved all students.

Art. An art class used features of the various biomes as the subject of a project. Students painted one feature twice, using first cool colors and then warm colors to convey mood. Justin prepared a sketch book illustrating the structural adaptations cacti use to survive in the desert, and analyzed them in accompanying text.

Putting It All Together
Our students may choose from a variety of ways to demonstrate what they learn, depending on their strengths and learning styles, including written reports, videotapes, and displays. Each group selects a special way of demonstrating its new knowledge, skills, and learning strategies and presents the projects at a bimonthly Parents' Night. When the teachers evaluate these culminating projects, they do so with an understanding of each student's strengths and weaknesses. Through portfolio evaluation, teachers, parents, and students assess progress in all
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academic subject areas and set goals for future growth. Both the structure of the curriculum and the use of multimedia technologies allow us to challenge gifted students and to modify for students with disabilities.

These classrooms have a different look and feel about them. There are no neat rows of desks—desks are in groups of four to encourage student interaction. Students do not remain seated—groups huddle around a computer, hunch over tables filled with reference books, and sit on the floor planning, storytelling, organizing. Teachers are not at the front of the room—they, too, huddle, hunch, and sit on the floor as they facilitate groups. The noise level is often high, but listen in on each group and hear the discussions. Students and teachers are focused, on-task, and excited about teaching and learning. This is Project LINCOLN'N.

References

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