Middle School Students Are Co-Researchers of Their Media Environment: An Integrated Project

By Phyllis W. Bernt, Sandra V. Turner, & Joseph P. Bernt

Despite the growing emphasis on proficiency testing and concern that students must spend sufficient time preparing for high-stakes standardized examinations, three seventh-grade teachers chose to devote significant classroom time to a curriculum unit involving project-based learning. The teachers, as well as their students, found the results to be worth the commitment of time and effort. Collaborating with three university researchers, the teachers and their students worked on one component of a three-year NSF-funded research project examining the media messages about information technology and careers that middle school students receive from television, popular magazines, books, videotapes, movies, and Web sites.

The overall national project examined whether the content of these media reinforces or hinders the development of gender and racial diversity in the information technology workforce. The component of the project discussed here was the pilot study for the development of a curriculum unit that could lead middle school students to an understanding of their media environment. The pilot study and the resulting curriculum unit sought the perspectives of the middle school students themselves while involving them as co-researchers. To this end, the seventh-grade teachers (a language arts, a math, and a science teacher) collaborated with the university researchers to develop and implement an interdisciplinary, project-based curriculum unit. This article describes the experiences of the teachers and their students and the meaning they gave their experiences.

Interdisciplinary, Project-Based Learning

The curriculum unit was based on the principles of student-centered, interdisciplinary, project-based learning in which students apply their knowledge to address real-world problems. Over the years, progressive educators have advocated this type of learning in various forms and under various names: integrated curriculum (Beane, 1991, 1993), interdisciplinary teaching (Vars, 1993), authentic instruction (Newman & Wehlage, 1993), project-based learning (Wolk, 1994), engaged learning (Jones, Valdez, Nowakowski, Rasmussen, n.d.), teaching for understanding (Perrone, 1994), and integrated units (Daniels & Bizar, 1998), to name a few. In its

PHOTO BY JOHN LOUNSBURY

Middle school students examine gender and racial images in their favorite magazines.

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2003 position paper *This We Believe*, the National Middle School Association called for an "integrative curriculum," a student-centered approach in which students and their teachers plan learning experiences organized around real-world issues significant to both young people and adults (National Middle School Association, 2003). In examining these issues, students apply concepts and skills from many disciplines. The emphasis is on higher-order thinking, cooperative learning, and democratic values. Among the arguments for curriculum integration are (a) students are more highly motivated and learn better because an integrative curriculum relates to their needs, problems, concerns, interests, and aspirations (Erlandson & McVittie, 2001) and (b) students are better prepared for life in contemporary society because an integrative curriculum addresses current social problems in all their real-world complexity (Vars, 2001).

The real-world social issue addressed in this curriculum unit was the influence of the media in the career aspirations of women and minorities. Research has shown that the middle school years are a crucial period during which students make key decisions that affect their future educational and career choices. In particular, these are the years when the interest of minority and female students in such technical areas as science, math, and information technology declines (American Association of University Women, 2000; Clewell & Braddock, 2000). During this critical juncture in their development, middle school students are bombarded by media messages. A national survey of media use by children (Kaiser Family Foundation, 1999) found that the middle school years include the period of highest media use, a total of eight hours and eight minutes a day. Students' exposure to media included television (3 hours and 37 minutes), print media (50 minutes), computer use (32 minutes), commercial videotapes (29 minutes), and movies (26 minutes).

Media play an important socializing role in the lives of adolescents. However, little attention has been devoted to the influence of media on the career aspirations of women and minorities. Research on the theory of media cultivation, which posits that prolonged exposure to media reinforces a narrow view of reality, suggests children (Swan, Meskill & DeMaio, 1998) and adolescents (Huston & Alvarez, 1990; Signorielli, 1990, 1993; Wroblewski & Huston, 1987) learn about the workplace from the unrealistic and stereotyped images they view on television. In addition, studies of gender and race portrayals in science-related television programs have found a paucity of minority participants, a disproportionately high number of males, and the assignment of females to secondary roles (Long, Bioarsky, & Thayer, n.d.; Steinke, 1998; Steinke & Long, 1996).

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Media Environment Integrated Curriculum Project

The central component of the curriculum unit was a survey administered by students asking their peers about their media environment and career aspirations. After classroom discussion of the scientific method and the social scientific use of surveys, seventh grade students working with the science teacher discussed the survey questions provided by the university researchers and developed additional questions of their own. The researchers provided the students with tested questions regarding the frequency of their use of television; movies and videotapes; magazines; various types of books; school and city libraries; and computers and the Internet at home, in school, and at libraries. Questions regarding their preferred books, movies, and videotapes; uses for printed and online information; and future careers were also provided. The science students added questions regarding newspaper readership, sports viewership, music use and listening habits, college plans, and favorite aspects of computer use.

Following instruction in how to explain the purpose of the survey to their peers, development of a script for doing so, and practice in presenting the survey among themselves, selected seventh grade science students administered the complete survey to 247 sixth, seventh, and eighth grade students in the school. Working with the math teacher once the surveys were completed, seventh grade students formatted and populated Excel spreadsheets before analyzing the resulting data for gender and ethnic differences regarding media use and career interests.

Once the magazines most often read by boys and girls were identified from the survey data, and after

instruction in the use of content analysis by one of the university researchers, seventh grade students working with their language arts teacher broke into teams to categorize the advertising images in their favorite magazines. This analysis identified the technologies portrayed in the advertisements and the race and gender of any people associated with the technologies presented.

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The last segment of this pilot study was a public presentation of research results. Working with their language arts teacher, the seventh grade students developed PowerPoint presentations of their findings. Their PowerPoint slides included an overview of their research activities, an explanation of the purpose of these activities, their hypotheses, and some of their findings, including favorite books and magazines of boys and girls, representations of gender and ethnicity in advertisements from their favorite magazines, and career preferences. Three groups of seventh grade language arts students presented these slides to a public assembly that included all seventh grade students and teachers, the middle school administration, parents, local media representatives, and the university researchers. Following the presentation, the university researchers, as well as students in the assembly, asked questions of the presenters about the findings, their research activities, and what they learned from participating in the project.

Evaluating the Experiences of Teachers and Students

Students became co-researchers in this project to gather data describing their own social and cultural environment. Authentic student research has the potential to be a powerful agent for educational and social understanding. In this case, the knowledge that students gained from gathering and analyzing data about popular media may have increased their awareness of gender and racial stereotypes in the media messages they receive.

To better understand the impact of this curriculum unit, qualitative inquiry was employed to investigate the experiences of the three seventh grade teachers and their students as they implemented an interdisciplinary research project about the media environment of middle school students. Qualitative methods are relevant for understanding social phenomena in the natural setting—in this case, the experiences of teachers and learners in the natural classroom environment. Qualitative researchers attempt to make sense of, or interpret, phenomena in terms of the meanings people bring to them (Lincoln & Guba, 1985).

The setting for the study was a middle school in a small midwestern city. The middle school enrolled 357 students in grades six through eight. The majority of the students lived in town, while the others were bused to school from surrounding rural areas. Most of the students were Caucasian (90.4%), with the largest minority group comprised of African American students (6.4%). Half of the students (50.6%) were eligible for the free or reduced lunch program. Fewer than 60% of the school's sixth graders passed the state proficiency tests in mathematics, reading, citizenship, and science, but 85% passed in writing. The school was a member of the Coalition of Essential Schools (2002), and teachers in the school were encouraged to participate in a variety of professional development activities.

The three participating teachers taught language arts, mathematics, and science as part of a seventh grade team consisting of five teachers and 105 students. The three teachers shared a daily planning period and collaborated regularly. Collectively, they had 40 years of teaching experience at the middle school level. All three had computers with Internet access in their classrooms and were comfortable using computers as a personal and instructional tool.

During the spring of 2002, data for this study were gathered from multiple sources: (a) observations of classroom activities during different phases of the project, (b) students' oral presentations and artifacts of students' work, (c) informal interviews with students, and (d) a two-hour debriefing session with the teachers. All observations, presentations, and interviews were videotaped; and the debriefing session was audiotaped and transcribed. Triangulation of the data across multiple sources and member checking enhanced the qualitative validity of the findings

(Lincoln & Guba, 1985). To analyze the data, the researchers viewed the videotapes and read the debriefing transcript multiple times to look for themes that emerged from multiple sources of data.

Outcomes of Teaching the Unit

Based on the data from teachers, students, and classroom observations, the following themes characterized the experiences of the teachers and students.

Authenticity

Students recognized that the project was authentic. They were collecting real data about themselves and their peers about a topic that genuinely interested them. The science teacher noted that when she introduced the survey, the students were surprised that the questions were about activities they under-stood, such as watching television, and that they would be asking these questions of other students. As the curriculum unit progressed, the students maintained a high level of interest. The language arts teacher noted that the students began each day by asking whether they were going to work on the project. In the public presentation, the student presenters framed the survey results in terms of "our peers" and "people our age." According to the language arts teacher, students in the sixth and eighth grades who completed the survey asked the seventh graders frequently about the survey results and whether they, too, would be able to participate more fully in the curriculum unit.

Responsibility

Students accepted responsibility for the project and for their learning. They were fully engaged in the project at every stage and took it seriously. Specific groups of students were assigned to organize data entry, to generate top-10 lists from survey results, to create PowerPoint slides, and to plan the public presentation. Students were given specific deadlines for these tasks. While the teachers provided guidance, the ultimate responsibility for these activities rested with the students themselves. As the math teacher noted, "The kids were very serious, and probably one of the neat parts [of the curriculum unit] is seeing that they were truly responsible for what was going on." This sense of responsibility was reinforced through peer evaluation, as the students were expected periodically to assess each group member and his or her contributions and to assess their own contributions by writing a self-reflective piece at the end of the curriculum unit.

Student-centered environment

The teachers established an environment in which they were co-researchers along with the students. They let the students decide how to organize the data collection and structure the analysis; perhaps even more importantly, they let the students make mistakes and figure out how to solve problems that arose. The math teacher noted that the students wanted to be told how to approach data entry; however, she left the process up to them. As she said, "They got all the results from the survey entered, but then realized they had to separate the results by gender. I knew when they started that they were approaching it wrong, but I let them go. It is one of the reasons they liked it [the curriculum unit]. They really learned, not just about the media and the survey, but also how to solve problems and how to follow through to complete a task. That is what I think was the most valuable aspect for my students." The students were surprised that the teachers did not know the "answers" to the research questions in advance. The teachers found this to be a valuable aspect of the curriculum unit because, as the science teacher noted, the students discovered that they had to find the answers for themselves; the teachers were not going to provide answers because they did not yet have the answers. The answers would come from the students' analysis of the survey results.

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Interdisciplinary curriculum

The language arts, mathematics, and science teachers planned and worked as an interdisciplinary team to implement the various components of the unit in the seventh grade curriculum. In addition to specific seventh grade curriculum objectives, the students learned new research, oral presentation, and technology skills. The science teacher addressed the scientific method and survey techniques; the math teacher dealt with use of spreadsheet software in the analysis of survey results, including calculation of percentages and frequencies; the language arts teacher conducted content analysis of magazine images and coordinated the use of presentation software and the development of the oral presentations.

Sense of audience

Students were motivated by having an audience for their work beyond their teachers and classmates. They presented their findings to the project directors from the university and invited parents, other seventh graders, the principal, and the local media to the presentation. The language arts teacher reported being pleased by how concerned the students were about presenting their findings, noting that they argued long and hard about the best way to do so.

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Self-esteem

The students expressed surprise and pride that they were selected for this nationwide research project. During the public presentation, students in the audience erupted in cheers and applause when told that their school was the first to participate in what would become a nationwide research project. They were equally impressed that they and their teachers were interviewed for two feature stories in the community newspaper.

Teachers' risk-taking

The teachers reported that their colleagues remarked about their willingness to take a risk with such a complex, long-term project even though they had never done anything like this before and did not have a written curriculum or the experience of other teachers to guide them. As the science teacher said, "I think some of our colleagues were shocked that we had agreed to do this without really knowing what we were doing, and yet we were willing to take the risk with our kids. And that there was not some cookbook that we were following." The math teacher noted that it was impossible to write lesson plans ahead of time. She, however, found this lack of certainty to be worth it, noting that "In reality they have done so much more work than they ever would have if they just did the same old tasks."

Cooperative group skills

When asked what they learned as a result of this project, the students repeatedly reported that they learned to work together in groups, and this result was confirmed by the teachers. The teachers reported that students learned to take a position and defend it. They learned to listen to their classmates' points of view. They learned to compromise and reach consensus.

Technology as a tool

The students learned new technology skills as they needed them to accomplish specific tasks. They learned to use spreadsheets, produce charts, and create PowerPoint presentations.

Time

Although the curriculum unit took more class time than the teachers expected, they and the principal wholeheartedly agreed that it was worth the time. The various parts of the curriculum unit were done over a two-month period. All three of the teachers found that they met their curriculum requirements through this project. They also agreed that this was a unique educational experience for them and for their students. As the math teacher noted, "I can tell you right now, I know my students, when they get to the eighth grade, are going to expect similar experiences because they really enjoyed doing this." This sentiment was echoed by the principal, who asked the teachers to develop other similar projects so that all grades in the school could participate.

Understanding of the issues

Although the students were fully engaged in their part of the research process, they had difficulty articulating the social issues that were the focus of the overall project. They recognized the gender differences in media use and the racial stereotypes in media messages, but did not go beyond that to consider the relationship between the media messages and young people's gendered career choices. In addition, they expressed some misperceptions in interpreting the results of their survey findings. One slide in their presentation, for example, interpreted their survey results as indicating that boys preferred action, suspense, and horror movies while girls preferred romantic and dramatic movies. Despite these stated gender differences, the slide also suggested similarities in media use because both boys and girls were interested in television, magazines, movies, books, and Web sites. Similarly, another slide stated, "We also found that Minority people played a big role in the magazines, but there were not a lot of images of

them versus the number of Caucasians." Only when one of the university researchers asked about the significance of the pattern that showed greater media use by girls than by boys did one of the presenters offer an overall generalization about this difference: "Boys get to do sports and play outdoors; boys get to play in the dirt, but girls just watch movies and listen to music."

Educational Significance of the Study

This study provides further evidence that an integrated, project-based approach to curriculum leads to relevant, meaningful learning experiences for middle school students. The seventh graders in this study were engaged and empowered as co-researchers involved in long-term, sophisticated inquiry about a topic that was meaningful to them. They took responsibility for their learning and developed valuable collaborative skills and technology skills. However, the experiences of the students in this study suggest that students may need explicit guidance and scaffolding to ensure that they have opportunities to synthesize and use higher-order thinking skills.

Given the current climate of standards-based curricula and high-stakes testing, even the leading advocates of curriculum integration are questioning the viability of this stance (Vars, 2001). Yet, this study provides support for those who argue that curriculum integration is worthwhile. The teachers in this study were enthusiastic about the educational value of the interdisciplinary project even though it consumed several weeks in their curriculum. They reported that students were able to accomplish the same curriculum objectives as they usually did but in a different way. Moreover, in a school in which the sixth graders did not meet the state's standard for passing the proficiency tests, the principal was so impressed with the outcomes of the students' work that he asked the teachers to design three similar projects for the next year so that every sixth, seventh, and eighth grader in the school can participate. Although studies show that students engaged in interdisciplinary projects usually do well on standardized tests (Vars, 1997), further research is needed to address the impact of this and similar projects on students' standardized test scores.

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