

Research Supporting Integrated Curriculum: Evidence for using this Method
of Instruction in Public School Classrooms

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Introduction

Integrated curriculum has many different meanings. Everyone has his or her own definition of an integrated curriculum. Malik & Malik (2011) defined integration as the organization of teaching matter to bring subjects together that are usually taught separately. Campbell and Henning (2010) believed that an integrated curriculum is learning organized around problems and issues of the students. Shriner, Schlee, and Libler (2010) believed that an integrated curriculum applies skills and vocabulary from more than one subject area to examine a central topic. Beane (1997) contended that an integrated curriculum “is concerned with enhancing the possibilities for personal and social integration through the organization of curriculum around significant problems and issues, collaboratively identified by educators and young people, without regard for subject-area lines (p. 55). Integrative approaches for science, technology, engineering, and mathematics (STEM) were defined as approaches that linked teaching and learning between two or more of the STEM areas or between STEM and another school subject (Becker & Park, 2011).

Purpose of integrated curriculum

The main purpose of an integrated curriculum is to have a student-centered curriculum that engages students, improves student learning, and increases student interest. Higher-order thinking skills, cooperative learning, and consideration of other students' values are emphasized. Students collaborate with teachers to make lessons that address social issues and student concerns (Vars, 2001). An integrated curriculum allows students the opportunity to notice the meaning and purpose in the material. Students also gain a deeper understanding of the material

(Watkins & Kritsonis, 2011). According to Mustafa (2011), an integrated curriculum prepares children for lifelong learning. Students can link their experiences in the classroom to the real world and make sense of experiences from their lives.

Literature Review

According to Malik and Malik (2011), there are 12 steps to take to develop an integrated curriculum. The writers' suggestions were mainly for directed toward professors in higher education; however, these suggestions also can apply to teachers in elementary and secondary schools. The twelve steps are as follows: (1) train the staff member, (2) decide on scope of integration, (3) choose the level of integration, (4) plan for both vertical and horizontal integration, (5) establish working groups and elucidate their responsibilities, (6) determine learning outcomes, (7) identify the contents, (8) create themes, (9) prepare a comprehensive timeline, (10) select assessment methods, (11) communicate with students and staff, and (12) commit to reevaluation and revision. These suggestions can lead to a successful integrated curriculum for all parties involved.

Harrell (2010) presented four modes of integrating the curriculum. Fusion brings together two separate disciplines. Incorporation adds one curriculum element to another. Correlation makes connections between two different subjects. Harmonization takes different elements of the curriculum that can work together and unifies them. There are also three models of curriculum integration: (1) interdisciplinary, (2) problem-based, and (3) theme-based (Mustafa, 2011). Subjects are grouped in time blocks, and students are assigned to a team of teachers in the interdisciplinary model. Problems in different subject areas are addressed in the problem-based model. In theme-based education, a theme is chosen and discussed. Students are

then able to link objectives and goals from different subject areas. Integration can also take place within and across and within learners and disciplines.

When developing an integrated curriculum, three foundations should be taken into consideration: (1) psychological, (2) sociological, and (3) philosophical (Vars, 2001). The psychological foundation includes students' motivation to learn. When the curriculum is related to the students' lives, they learn more effectively. The curriculum takes into account the students' needs, problems, concerns, interests, and wants. The psychological foundation helps develop higher-order thinking skills. The sociological foundation includes concepts and processes of the subject areas. These concepts are taught with carefully designed units. The philosophical foundation provides a framework for values and a core for learning. These values are important and essential for all citizens in a democracy.

Based on the brief literature review, the use of integrated curriculum is useful and effective in public school classrooms. Integrating the curriculum actively engages students in lessons and extends their thinking skills. Integrated curriculum also allows students to make connections among different subject areas and to their own lives. When students make these connections and understand why they need to know certain skills or pieces of knowledge, the learning process becomes positive for the students. A deeper level of meaning is connected to the content and skills that the students learn while engaged in the integrated curriculum.

Integrating the curriculum is an incredibly important issue in the field of education. As mentioned by Campbell and Henning (2010), knowledge today is becoming more interdisciplinary and integrated, which calls for more interdisciplinary and integrated learning in public schools. Teachers are continually looking for ways to engage their students and deepen their understanding of the content. Integrating the curriculum is one way to accomplish that

goal. According to Bolak, Bialach, and Dunphy (2005), when students get the opportunity to discover new knowledge and apply that knowledge, they are more likely to succeed. Gains in achievement are noticeable, especially when students are engaging in hands-on activities. Achievement gaps can also diminish with the use of an integrated curriculum, especially gaps between science and math (Becker & Park, 2011). Even now with the No Child Left Behind initiative, schools need to find effective methods to close the achievement gap. When students have the opportunity to make connections between their personal life experiences and the content in the classroom, their knowledge will expand and be much more meaningful to them.

Students are capable of making meaningful connections between different disciplines. Integrating the curriculum allows students many opportunities to understand why they need to know certain skills or pieces of knowledge. Students can master the content and understand it at a higher level (Watkins & Krisonis, 2011). It is important in education for students to be pushed to higher levels of thinking with important content. Critical thinking is highly emphasized in an integrated curriculum because it motivates students and teachers simultaneously.

Several writers report that students in schools that focus on and take part in integrated curriculum perform better on standardized tests and state exams than students in schools that do not (Shriner et al., 2010; Campbell & Henning, 2010; Hinde, Osborn, & Dorn, 2007). Harrell (2010) reports that integrating curriculum enhances student learning.

In a three-day workshop, Shriner et al. (2010) conducted a survey concerning integrated curriculum. Thirty-six teachers completed the survey with six Likert-type questions and four open-ended questions regarding integrating multiple standards in each subject area. The results showed that some teachers integrated subjects because it saved time and was student centered. Students were able to obtain more knowledge and connect that knowledge to real life

experiences. Teaching and learning were more enjoyable and gratifying for the students and the teachers. The researchers concluded with three reasons to integrate the curriculum: (1) teachers were better able develop relationships with students, (2) learning was more enjoyable and relevant to the students' lives, and (3) the bridge linked traditional academic areas to students and the community.

DeCorse (1996) interviewed five teachers asking for their views on integrated curriculum. Most teachers reported that students recognized connections between content, remembered what they did during one class, and applied their knowledge to what they learned later. Teachers also reported that they believed an implemented integrated curriculum was much more student centered. Students could develop individual self-efficacy through the delivery of integrated curriculum. Peer tutoring also evolved, especially during teachers' and students' discussions. Students were given the opportunity to socialize with each other and cooperatively share information. Teachers also reported that students were able to make connections and meaningful transfers among subject areas.

Bolack et al. (2005) integrated arts into the core curriculum. Two 6th-grade classes (51 students total) took part in a curriculum that infused the arts (music, creative movement, visual arts, and drama) into language arts, social studies, science, and math. The unit was created by the principal, community, Gifted and Talented coordinator, physical educator, music educator, drama teacher, fine arts coordinator, and parents. Results showed that students' socialization skills and standardized test scores increased. Reading scores increased 15 percent, and mathematics scores increased 18 percent. Parents noticed an increase in their children's interest in going to school.

Becker and Park (2011) studied the effects of an integrative approach among science, technology, engineering, and mathematic (STEM) based on previous research that concluded that integrated approaches increased students' interest and learning in the STEM subjects. All four STEM subjects were integrated together. Students showed an increase in science knowledge and improvement in higher-level thinking skills on open-ended questions. Students in the integrated science course performed exceptionally well on a statistics unit in their math class. Students in the integrated algebra course improved their critical thinking skills and had more positive attitudes toward the subject of math.

Benefits of integrated curriculum at the college level have been examined. Campbell and Henning (2010) compared a traditional course with an integrated course for designing an interdisciplinary curriculum. Fifty-nine undergraduate students (33 integrated and 26 non-integrated) completed the study. All students received grades on the integrated units and reflections they submitted. Students enrolled in the integrated course scored higher than their counterparts.

An integrated curriculum also has many benefits. Because of integrated teaching, students develop a love of learning, increase self-confidence, attain a commitment to the democratic group process, and increase their critical thinking skills and concern for other people. (Vars, 2001). Erlandson and McVittie (2001) asked students their opinions about their integrated curriculum experiences in language arts and social studies. Students reported that they were able to make connections between content knowledge and real life experiences. Their way of thinking transformed, and they began linking knowledge from their lessons with their personal lives. The students also recognized that integrating the curriculum unified each discipline into a whole.

Why the evidence supports this position

The literature indicates positive gains in student achievement resulting from integrated instruction in the classroom. Students in integrated curriculum courses perform better than students in non-integrated courses (Bolack et al., 2005; Romance & Vitale, 1992; Campbell & Henning, 2010). In addition, students make connections among disciplines, academic content, and life experiences. Students' increased critical thinking skills, self-confidence, and love for learning also support advocacy for the use of an integrated curriculum.

When interviewed, students had a positive attitude toward an integrated language arts and social studies curriculum (Erlandson and McVittie (2001). It was found that teachers also had a more positive outlook on integrating the curriculum when interviewed by Decorse (1996) and Shriner et al. (2010). Motivated teachers and students allow a classroom to be a positive, fun, and engaging environment in which to learn.

Why the practice of integrated curriculum is important to education

It is important to evaluate the subject of integrated curriculum in education. Some licensed teachers never consider the option of content delivery. Some teachers still present content by keeping subjects separate with no integration. However, an integrated curriculum can cover many standards and meet the needs of high-stakes assessments (Vars, 2001).

Classroom lessons that incorporate integrated curriculum can be effective alternatives to the traditional subject-by-subject curriculum. It is important that educators at all levels examine the positive learner outcomes, achievement, and self-confidence caused by implementing an integrated curriculum. Students enhance critical thinking skills, make connections between subjects, and connect content to the real world.

Engaging the students frequently is emphasized for effective curriculum and instruction. In integrated lessons, students' voices are valued, and students have some ownership over their educations (Mills & Lehman, 1996). The curriculum is student centered. Students learn about relevant subjects in their entirety and make connections to the real world (Watkins & Kritsonis, 2011).

According to Watkins and Kritsonis (2011), there is a human need for meaning in life which is met with an integrated curriculum. An integrated curriculum involves compelling life concerns, engages a wide range of knowledge, poses opportunities for in-depth work, and presents possibilities for personal and social action (Virtue, Wilson, & Ingram, 2009). Students' engagement is improved, and their attention is focused toward the relevance of the content (Mustafa, 2011).

Engagement, motivation, student-centered approaches, and gains in critical thinking skills are all worthy and valid reasons to use an integrated curriculum approach in the classroom. All are benefits that teachers and administrators desire for their students.

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