

Overarching Goals, Values, and Assumptions of Integrated Curriculum Design

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Abstract

The integration of one's curriculum is an approach to education that ignores subject-matter lines of delineation, thus allowing faculty to bring together the separate pieces of a curriculum into a coherent whole that facilitates meaningful associations across subject matter. Before taking on the challenge of curriculum integration, faculty must give serious thought to the ramifications of the change. This article addresses many of the considerations that must be made including the principles of integrated curriculums, models of integrated curriculums, approaches to integrated core curriculums in higher education, and challenges and opportunities associated with the development of an integrated core curriculum. Evidence suggests that the goals and values inherent in an integrated curriculum are worthy and something that most educators would support if the proper foundation is laid for their implementation.

KEYWORDS: *Integrated curriculum, core curriculum*

In classical times, emphasis was placed on the liberal arts with the goal of producing widely read, well-spoken individuals who had a broad understanding of a wide range of topics. However, this all changed with a treatise entitled *The Marriage of Philology and Mercury* written by Martianus Capella, a 5th Century scholar, which began as an allegorical romance but concluded with a textbook identifying seven distinct liberal arts. Focusing the liberal arts in seven distinct disciplines wrought the beginning of academic specialization (McFarland & Taggie, 1990). With doctoral programs advancing this idea of specialization, incorporating the idea of interdisciplinary or integrated learning into a curriculum has remained a challenge, particularly in higher education. Yet, today's world is full of complex problems that demand a more integrated approach if solutions are to be found (Klein, 2005).

Any discussion of curriculum change must first take into consideration the question of whether a faculty or department is engaging in "change for change's sake." There must be serious thought given to the reasons for change, including the benefits and negatives for the department, individual faculty members, students, and, in many cases, the profession for which the students are being prepared. However, evidence suggests that the goals and values inherent in an integrated curriculum are worthy and something that most educators would support if the proper foundation is laid for their implementation. Shoemaker defined an integrated curriculum as:

Education that is organized in such a way that it cuts across subject-matter lines, bringing together various aspects of the curriculum into meaningful association to focus upon broad areas of study. It views learning and teaching in a holistic way and reflects the real world, which is interactive (1989, p. 5).

Shoemaker's definition strongly suggests a set of guiding values within an integrated curriculum are needed. Research in K-12 education, where much of the research on integrated curriculum is focused, suggests additional benefits of this type of curriculum design including greater intellectual curiosity, improved attitudes toward school, and enhanced problem-solving skills among students (Austin, Hirstein, & Walen, 1997).

Principles of Integrated Curricula

Instructors who are preparing to take on the challenges of an integrated curriculum must recognize the inherent nature of the design of the curriculum. All definitions of an integrated curriculum focus on the central idea that the curriculum will address a combination of subjects (although might be focused on one overarching discipline), emphasizing project work that will: 1) utilize sources that go beyond textbooks, 2) develop relationships among concepts, and 3) utilize thematic units as organizing principles. In addition, faculty implementing integrated curriculum must be open to flexible schedules and be willing to adapt to flexible student groupings (Shoemaker, 1989). The instructor who is committed to developing in his or her students the ability to make connections across numerous disciplines or subject matters is the instructor who will find these principles to be ideal for achieving that goal. Although Shoemaker identified common principles and goals of the integrated curriculum two decades ago, more recent research suggests that these principles are still inherent in the design of an integrated curriculum (Drake & Burns, 2004; Huber, Hutchings, & Gale, 2005)

Models of Integrated Curricula

Much of the work on integrated curricula has been focused at the primary and secondary levels of education rather than within higher education. These integrated curricula are identified as methods to successfully create interdisciplinary-based learning among students. In K-12 education, a variety of models have been used. For instance, schools may choose to use an *interdisciplinary model*, where traditional subjects are grouped into blocks of time and a team of teachers is expected to teach its group of students through an interdisciplinary/integrated curriculum. A second model is identified as a *problem-based model*, where the curriculum places a problem related to a specific subject (e.g., technology or health) at the core of the curriculum and utilizes learning in the various subjects to solve the problem. Finally, a *theme-based model* is focused on connecting the interdisciplinary learning to a particular theme with the teachers having a great deal of flexibility in choosing the theme (Loepp, 1999).

Fogarty (1991) outlined 10 different models of learning on a continuum of education that is still relevant today as academic departments identify the extent to which they might want to develop an integrated curriculum (Figure 1). The integration model falls just two points from the end of the model which is anchored by the networked model, representing completely independent learning on the part of a student who engages and directs all integration him or herself. This model can foster faculty appreciation for different types of expertise, and well as facilitate motivation as students gain momentum from class to class. More recently, Miller (2005) identified that in higher education, integrative learning can include learning communities, student teaching, challenging students to consider multiple perspectives in order to advance collaborative problem solving, adapting skills from one situation to another, learning portfolios as well as “across-the-curriculum” integration of skills. Drake and Burns (2004) outlined that most integrated curriculums use one of three approaches regardless of the teaching techniques they may use 1) multidisciplinary, which focuses on the relationship of different subjects to each other and a common theme; 2) interdisciplinary or the organization of the curriculum around common learnings across disciplines (e.g., literacy, thinking skills, writing); and 3) transdisciplinary, where teachers organize the curriculum around student questions and concerns, allowing them to develop real world skills as they apply interdisciplinary and disciplinary skills in real life contexts.

Integrating Core Curricula into Higher Education

There are a number of disciplines that have begun to explore the concept of integrated curriculums specific to the core knowledge base of that discipline. Many schools are developing integrated versions of common body of knowledge (CBOK) courses although the majority are found in schools of business or engineering with additional examples found in public health as well as parks and recreation curricula, which are highlighted in this special issue. Typically these curriculums require anywhere from 12-20 credit hours and are team taught by multiple faculty (Pharr, 2000).

There are numerous reasons for the move toward an integrated core curriculum, many of which might be very appealing to faculty. An integrated core curriculum is one that is similar to an interdisciplinary integrated curriculum but focused on the

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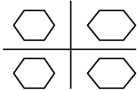
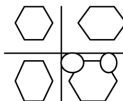
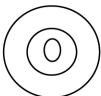

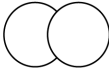
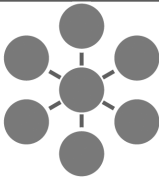
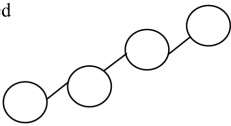
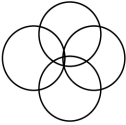
Name	Description	Advantage	Disadvantage	
Fragmented		Separate and distinct disciplines	Clear and discreet view of a discipline	Connections are not made clear for students; less transfer of learning
Connected		Topics within a discipline	Key concepts are connected, leading to the review, re-conceptualization and assimilation of ideas within a discipline	Disciplines are not related; content focus remains within the discipline
Nested		Social, thinking and content skills are targeted within a subject area	Gives attention to several areas at once, leading to enriched and enhanced learning	Students may be confused and lose sight of the main concepts of the activity or lesson
Sequenced		Similar ideas are taught in concert, although subjects are separate	Facilitates transfer of learning across content areas	Requires ongoing collaboration and flexibility, as teachers have less autonomy in sequencing curriculum
Share		Team planning and/or teaching that involves two disciplines, focuses on shared concepts, skills, or attitudes	Shared instructional experiences; with two teachers on a team it is less difficult to collaborate	Requires time, flexibility, commitment, and compromise
Webbed		Thematic teaching, using a theme as a base for instruction in many disciplines	Motivating for students; helps students see connections between ideas	Theme must be carefully and thoughtfully selected to be meaningful, with relevant and rigorous content
Threaded		Thinking skills, social skills, multiple intelligences, and study skills are "threaded" throughout the disciplines	Students learn how they are learning, facilitating future transfer of learning	Disciplines remain separate
Integrated		Priorities that overlap multiple disciplines are examined for common skills, concepts, and attitudes	Encourages students to see interconnectedness and interrelationships among disciplines, students are motivated as they see these connections	Requires interdepartmental teams with common planning teaching time
Immersed		Learned integrates by viewing all learning through the perspective of one area of interest	Integration takes place within the learner	May narrow the focus of the learner

Figure 1. Continuum of Education (*The Mindful School*, Fogarty)

core knowledge base of a specific discipline. Often taught with a cohort of students, faculty work as a team to deliver the core knowledge for the discipline. Material is taught across areas of expertise so that students start to understand the interrelatedness of the material to the specific discipline.

Business schools were among the early adaptors of the integrated core concept in higher education. As identified by many business school administrators, business as a profession is no longer based on Adam Smith's approach, outlined in *The Wealth of Nations* (Smith, 1776), which centered on increased production through the fragmentation of labor. Because businesses no longer operate as departments that are completely separate from one another, teaching students this way—finance separate from business law separate from economics—makes no sense. Fragmentation of learning is no more relevant today than the fragmentation of labor. Today's integrated business curriculums are process-oriented to reflect changes in the business environment. That is, most key processes that occur within business cut across the traditional functional boundaries of departments. As Athavale, Davis, and Myring (2008) pointed out, as integrated curriculums are designed to emphasize interrelationships between functional areas of a business, they can help provide the business community with the team players who understand organizational interactions. Certainly, this is also true of other disciplines. Many of the changes in the workplace that are driving curriculum change are centered on the distinguishing fact that "complete" competence is needed at more levels (Walker & Black, 2000).

Walker and Black (2000) posited that there are two approaches to educating business majors—the traditional process that produces graduates with specialized, functional training; or an approach focused on teaching process and interdependencies of organizational functions before students undertake advanced coursework in their chosen discipline. The second approach is accomplished through the creation of multidisciplinary teams. This is true in business; it is true in myriad other disciplines as well. There are too many gaps between practice and teaching as a result of a lack of interaction between faculty and the business that they are preparing their students to enter whether the "business" be marketing, communications, or parks and recreation management. There are multiple issues that have all contributed to graduates who are not fully prepared for upper-level coursework or, even worse, entering the workforce: changing technologies; delays in incorporating new knowledge in textbooks and other teaching materials; aging, change-resistance faculty; and a fundamental mismatch between faculty performance measures and objectives of academic departments to produce graduates attractive to employers and trained to solve practical "real-world" problems (Walker & Black, 2000). The traditional approach to teaching is perpetuating these problems. Other issues related to the traditional approach to curriculum development include the fact that often, when core coursework is not offered in an integrated manner within a cohort, students often would not finish their core coursework prior to entering upper level coursework, and at times, not until right before graduation. If faculty value the core curriculum as the foundation for learning upper level concepts, this is unacceptable. Other departments that have instituted an integrated core in their graduate program have pointed to the fact that when classes were taught separately, students did not see the connectedness of the content and often questioned the relevance of the material. In addition, there was little communication among faculty who taught the core which led to duplication, discontinuity and

conflicting content. Quality of instruction varied, there was little oversight of material taught outside the department and at the time of graduation students did not feel that they had a command of the knowledge inherent in the core (Petersen, Hovinga, Pass, Kohler, Oestenstad, & Katholi, 2005). These types of grievances are often heard by faculty longing for more efficient and effective ways to prepare students.

Specific Approaches to Integrated Core Curricula Development

Walker and Black (1990) identified three categories of benefit to the approach that suggest that the goals and values inherent in this approach would likely be appealing to faculty and administrators alike. The benefits fall into three categories: 1) areas associated with the curriculum development process, 2) areas that address effectiveness and efficiencies in the educational process, and 3) organizational benefits. Each of these categories should address how most faculty see themselves being more effective in their jobs as instructors. First, the curriculum development process is one that focuses on providing a basis for strategizing for the curriculum. This process can help faculty overcome the issue of teaching in a silo and solely interpreting learning objectives through their own expertise rather than across the curriculum. The second benefit of the approach is that in integrating the curriculum the department is able to identify and eliminate unnecessary redundancies. A team-taught curriculum requires faculty to work together to produce content and in doing so, recognize where the same concepts are being taught repeatedly yet little attention given to how they are related. An integrated core builds on knowledge from one discipline/subject to the next with enhanced content through integration, and in fewer credit hours. In addition, with a flexible structure through block scheduling, the curriculum and the structure allow for modification of content in response to what is going on in the world. An integrated curriculum allows faculty to understand how to best deliver this material and in the process, be not only more efficient at doing so but also do so more effectively. Finally, one cannot ignore the organizational benefits in the process. As ownership of courses shifts from the entire faculty at large to interdisciplinary process teams, other faculty can be used for discipline specific courses.

No One Said It Would Be Easy

While the values and goals inherent in integrated curricula are likely appealing to many faculty, the process of implementation is not an easy one. However, if done correctly, the outcomes are well worth the growing pains. Numerous educators and researchers have identified that there are a number of steps that must be taken in order for an integrated curriculum to come to fruition. First, faculty must shift from a belief system that has traditionally been didactic to one based more in constructivism. Many instructors have been taught that, as the purveyors of the knowledge it is their duty to share this knowledge with students in a way that is, quite frankly, a one-way street and single-minded. Integrated curricula are not one-way streets and most faculty know that the “old” ways of doing things have become less than effective with 21st Century learners. Teachers in an integrated curriculum need to be those who are excited to work with faculty from other backgrounds and areas of expertise to figure out how to teach students to learn in a way that connects concepts and builds solutions and new approaches through the lens of a wide variety of approaches. A second challenge is

that this type of curriculum will likely demand an extensive amount of professional development for faculty. Faculty would need to learn not only new approaches to teaching but also to learn about other disciplines—not necessarily to become experts but to have enough of a working knowledge that they can appreciate and recognize the importance of those disciplines to the big picture. In addition, faculty would need to become members of a learning community along with their students. From the perspective of their role in the classroom, faculty would need to be skilled in facilitating small group learning, managing experiential-oriented instruction, and utilizing authentic assessment strategies (e.g., portfolios, performance exams, rubrics). Beyond the faculty, this is also a curriculum that demands administrators who are willing to support this type of curriculum change and thus if it is successful, advances the way we approach education from a much larger point of view than simply the individual instructor changing. Integrated curriculum delivery is exciting but represents systematic reform—the pieces of the systems that need to be reformed are numerous (Brunel & Hibbard, 2006; Klein, 2005; Loepp, 1999; Sharpe & Breunig, 2009).

Benefits

The benefits to integrated curriculum design, whether interdisciplinary or based in the core of a specific discipline, have been well-documented (Athavale, Davis, & Myring, 2008; Brunel & Hibbard, 2006; Drake & Burns, 2004; Miller, 2005). From the perspective of the students and the department, integrated approaches often lead to improved teaching quality. These integrated teaching approaches are not just due to the challenges but rewards of teaching in it, the better instructors tend to form the core of the teaching team. Teaching teams attract better teachers as they thrive on the challenges and the opportunity to become better teachers through weekly reviews of the previous week and through constructive support offered by teammates. Research focused on student outcomes has found that the more holistic approach allows for growth in the students' ability to ask meaningful questions about complex problems, locate multiple sources of knowledge, and to compare and contrast knowledge, information and perspectives (Klein, 2005). Foster and Linney (2007), in the context of environmental education, found that a cohort approach to integrated learning led to improved interpersonal skills, increased engagement, and improved academic performance. In addition, faculty have found that teams foster cooperative learning and critical thinking skills (Brunel & Hibbard, 2006).

Guiding Principles for Core

Regardless of the specific discipline, faculty need to be aware of principles that are applicable for the development of an integrated core that will help them achieve the goals and values of this type of approach to instruction. Peterson et al. (2005) outlined the principles that she and her team identified as necessary for the development of an integrated core as part of a public health program, yet the literature suggests that these are applicable across the board. First, while not all faculty may teach in the integrated core, it should be the collective responsibility of faculty, not the individual responsibility of specific faculty, concentration areas, or departments. All faculty and areas of specialty in upper-level courses will be served well by students who have a solid core foundation and thus should have a vested interest in the creation of that

knowledge. Second, the integrated core should serve as the basis for upper-level coursework and as such, always be taken early in the program rather than later. Third, the faculty should emphasize development of skills plus acquisition of knowledge; an integrated curriculum should be designed with integration in mind and integration suggests that knowledge and skill development are necessary for it to occur. Fourth, the curriculum should emphasize practice and therefore application of knowledge and skills. Fifth, the faculty should demonstrate integration of disciplines, as well as provide opportunities to practice integration in order to further students' abilities to integrate and apply the material. Sixth, the curriculum should be designed in such a way that it truly eliminates redundancy yet not sacrifice critical content. And finally, the curriculum must emphasize high quality instruction. The core is the foundation of any discipline, if the instruction is lacking in the core, then students will not be prepared for what comes next.

Gaining Support

Gaining support for the integrated curriculum across the faculty is vital to its success. There are a number of groups that may need convincing including faculty, administrators, and groups such as university curriculum committees and faculty senate. While the benefits of a discipline-specific integrated curriculum are similar to those for an interdisciplinary integrated curriculum, there are a number of issues to consider before a department and its faculty venture forward. There may be faculty resistance to change, and there will definitely be financial costs associated with the change. Costs may include summer pay to plan the curriculum, release time to prep, faculty training in teaching methods, as well as new faculty hires focused on cross-functional expertise. Other challenges include the time necessary to plan the new curriculum as well as changes to teaching schedules as block scheduling becomes the norm (these changes can also cause difficulties for commuter and part-time students).

Within higher education, the culture and reward system often do not support innovation, there may be a lack of teaching materials to support the new perspective, and administrative issues may also throw up roadblocks to progress. However, for many faculty, overcoming these challenges is well worth the time in exchange for increased efficiency and student preparedness down the road. One of the primary indicators of increased efficiency is that the integrated core typically decreases (in some cases tremendously) the number of credit hours needed for the students to gain that knowledge and redundancies in teaching are eliminated (Petersen et al., 2005).

There are ways to address the inherent problems that might arise. There is no question that faculty member's first question may be to ask how the new curriculum would affect not only their workload but also their performance evaluations. In today's world of higher education, the primary currency tends to lean toward grant dollars and publications, not teaching. Therefore, to successfully integrate a curriculum there must be recognition of how time consuming the process will be for involved faculty (Brunel & Hibbard, 2006). Along with this recognition must come performance indicators, reward systems, and other benefits that will give credence to the work that is being done in teaching the core curriculum. For instance, administrators might choose to increase professional development allocations or summer pay for these faculty to allow them time to enhance their teaching and discipline skills and knowledge.

Strong academic leaders and a critical mass of faculty willing to dive in can help ease the transition. Depending on the organizational structure of the department, school, or college, some propose creating a separate organizational unit responsible for the core that reports to the dean, particularly if the dean is a proponent of the concept. While some faculty may bristle at the idea that “non experts” might be teaching in their expert areas, the reality is that instructors at community colleges often teach core courses without a PhD as they prepare students for their higher level coursework. Faculty who are willing to let go of their “fiefdoms” can be a beneficial asset to the process whether they are directly involved or not (Pharr, 2000). Faculty who are willing and excited to acquire new knowledge and understanding and maintain an openness to acknowledge status and contribution of other disciplines will be major contributors to this exciting approach to curriculum delivery.

It is important from both a faculty as well as an administrator’s viewpoint that the goals and values inherent in an integrated curriculum are reflected in its implementation. The goal of integration and the value of improved teaching and instruction must be supported through changes to evaluation systems as well as investments in faculty and time. Challenges such as phasing out the old curriculum while introducing the new one will likely cause headaches but if administrators allocate resources to hire adjuncts in the interim then the transition will be smoother and not lead to unnecessary course overloads. Research has found that there are feasible solutions to some of the most common issues that might scare faculty and administrators away from this approach as well as findings that many of faculty’s greatest fears did not come to fruition. For instance, public health programs found that this new approach did not distract from other responsibilities such as teaching their outside course(s). In addition, implementing lab fees can also help offset issues by allowing departments to hire teaching assistants to help with the process. While implementation can be tiring (both physically and mentally) and daunting to students, many programs have found that the increased efficiency and effectiveness of this approach outweigh these negatives.

As stated earlier, evaluation has found many benefits for students who engage in an integrated interdisciplinary curriculum. Beyond those already mentioned, integrated core students often report that the quality of material, structure and instruction is higher; alumni feel better prepared; students work better in teams as a result; students are better prepared for higher level material; and that overall, students, faculty and administration feel that the benefits outweigh the costs (Petersen et al., 2005).

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