

Interdisciplinary Courses

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Introduction

Curriculum integration is teaching about topics that reach across multiple disciplines. One approach to such integration is through interdisciplinary courses which incorporate topics from across multiple disciplines into a cohesive narration (Vars 1991). This review looks at course development through interdisciplinary approaches in respect to the goals to be achieved, course development, and continuing challenges.

In addition to interdisciplinary there also exist cross-disciplinarity and multidisciplinary. Cross-disciplinarity is the use of one discipline to examine another discipline. Multidisciplinary is the understanding that disparate academic disciplines exist and students should be aware of those disciplines. Of the three, only interdisciplinary involves the understanding that a set of topics from disparate disciplines are related and might be taught under the umbrella of a single course.

In examining interdisciplinary courses we start from first premises and see what has been said about the goals in teaching an interdisciplinary course. Next we look at what the current thinking is on developing the ideal interdisciplinary course. Finally, we look at the current state of interdisciplinary courses.

Goals of interdisciplinary courses

In a nutshell the goal of an interdisciplinary course is the idea that students can benefit from seeing topics from multiple disciplines within the context of a single course. This single course integrates perspectives from across disciplines to reveal to the student that gaining knowledge is not done in isolation, that ideas come from many sources, and that a development of themes and a broader understanding can result from seeing how each discipline views the organizing topic (Jacobs 1989).

Jacobs views interdisciplinary courses as a way of teaching subjects in the school in the same manner we see these subjects outside the school which is at the same time. Topics are intertwined in life and therefore topics should be intertwined in the classroom. The goal is that such an approach will offer a more rewarding learning experience for the student and a more satisfying teaching experience for the instructor.

The literature claims interdisciplinary courses allow instructors be more satisfied and give students broader perspective from the multiple disciplines. However, what is not made clear is if these benefits

could not have just been gained from traditional courses into which developmental resources have been spent to improve the quality of the teaching (Brophy 1991). Many of the interdisciplinary courses are pilot projects where naturally more resources have been expended to ensure success.

Planning for interdisciplinary courses

Involving multiple disciplines in developing a single course takes planning. Without proper management and resources the development time of such a course can be a challenge. A number of sources such as Davis, Jacobs, and Renzulli offer templates for developing interdisciplinary courses. All of them point out the greatest challenge is in identifying the key topics that form the course. Only then can development of a course successfully move forward. Many of the developmental approaches in the literature focus on a top down design in which learning outcomes drive educational goals and from there the structure of the course (Davis 1995).

Once the scope of the interdisciplinary course is determined it actually follows many of the models for traditional course development. The twist is the incorporation of multiple disciplines therefore potentially involving multiple instructors each bringing their own specialized knowledge to focus on the course development. The course then becomes a case of give and take to achieve a balance which is crucial to the success of the course (Renzulli 2000).

The follow on requirement is to maintain the interdisciplinary course within the curriculum. Key to acceptance of such a course is ensuring that the course fulfills the needs of the curriculum and has the support of faculty and students. While this is true of any new course, the difficulty of a new interdisciplinary course is that the involvement of multiple disciplines can add to the cost and time of developing the course and the maintenance of the course. The question the institution has to answer is if the added costs are offset by the gain in student performance.

Conclusions

Interdisciplinary courses offer an alternative to the traditional single topic course. The caution for any course is to not overwhelm the student in presenting the material. For Davis (1995) it is even more crucial in an interdisciplinary course to ensure that the number of topics and the amount spent on each topic is carefully determined to achieve the educational outcomes of the course. The benefit is the opportunity to bring perspective to a topic (or topics) from multiple disciplines in a single course.

A criticism of interdisciplinary courses is that time spent with other disciplines takes away from the time to develop a deep knowledge in a specific subject in a topic area. This is the dichotomy between being a specialist (the traditional approach in higher education) and building a well rounded educational experience. The ideal might be to have both; however time and resource constraints limit this ideal. Therefore, the hope is that teaching a topic from multiple perspectives will both provide a well rounded educational experience and that such a perspective brings its own depth.

Annotated Bibliography

Davies, M. and Devlin, M. (2007). *Interdisciplinary Higher Education: Implications for Teaching and Learning*. Centre for the Study of Higher Education, The University of Melbourne.

This article is a concise introduction to the subject of interdisciplinary courses. It offers a definition of academic disciplines, and defines the differences between the variations of the term disciplinarity. It also looks at the pitfalls in developing interdisciplinary courses and what is required for such courses to succeed.

Davis, J. R. (1995). *Interdisciplinary courses and team teaching: new arrangements for learning*. Imprint Phoenix, Ariz.: American Council on Education and the Oryx Press.

This book argues that an interdisciplinary, team-driven approach to courses offers a better approach to traditional courses. Furthermore, this book looks at well over a hundred such interdisciplinary courses across diverse fields of study in reinforcing its argument. It follows this introduction with a template for developing such courses.

Jacobs, H.H. (1989). *Interdisciplinary Curriculum: Design and Implementation*. ASCD, Alexandria, Va.

This book defines and discusses the creation of curriculums from an interdisciplinary perspective. The book covers six design approaches for an interdisciplinary curriculum and offers a process for integrating the teaching of math, language, science, social studies, and the arts.

Jacobs, H.H. (1991). Planning for curriculum integration. *Educational Leadership*, 49(2), 27 – 28.

This article is part of a focus in *Educational Leadership* on the topic of “Integrating the Curriculum”. It describes a four phase plan for bringing an interdisciplinary course into the curriculum. The four phases are research, proposal, implementation, and adoption. The goal is that the course is not looked at as a pilot or experiment, but instead becomes part of the curriculum.

Renzulli, J. S., Leppien, J. H., and Hays, T. S. (2000). *The Multiple Menu Model: A Practical Guide for Developing Differentiated Curriculum*. Mansfield Center, CT: Creative Learning Press.

The Multiple Menu Model provides six practical planning guides for developing courses within a curriculum. The goals in course development are investing students, balancing content and process, and engaging multiple disciplines. The intent is to take educational outcomes and pare away the extraneous blockers to developing the curriculum.

Vars, G.F. (1991). Integrated curriculum in historical perspective. *Educational Leadership*, 49(2), 14 – 15.

This paper actually looks at curriculum development through three methods: themes, interdisciplinary courses, and block time. These three methods all offer ways to provide an integrated curriculum. Each method has advantages and disadvantages and therefore being aware and knowing what is available and which method is appropriate is the focus of this paper.

Additional Resources

Ausburg, T. (2006). *Becoming Interdisciplinary: An Introduction to Interdisciplinary Studies*. New York: Kendall/Hunt Publishing.

Becher, T. (1981). Towards a Definition of Disciplinary Cultures. *Studies in Higher Education*, 6(2), 109-122.

Brophy, J. & Alleman, J. (1991). A caveat: Curriculum integration isn't always a good idea. *Educational Leadership*, 49(2), 66.

Bruner, J. S. (1966). *Toward a theory of instruction*. Cambridge: Harvard University Press.

Bruner, J. S. (1996). *The Culture of Education*, Cambridge: Harvard University Press.

Squires, G. (1992). Interdisciplinarity in Higher Education in the United Kingdom. *European Journal of Education*, 27(3), 201-210.