
Interdisciplinary Approach in Teaching: Future Requirement

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ABSTRACT:

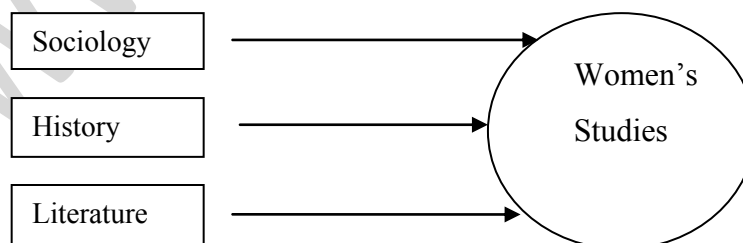
Gone are the days when students were satisfied with the written content taught to them by their teachers. Now they want to be satisfied by practical application of theory to solve real world problems. That can only be resolved through interdisciplinary teachings approach. Let's discuss a few of the potential benefits of interdisciplinary approach. This paper is an attempt to discuss what is interdisciplinary approach of teaching, its types, requirement, process, future benefits and difficulties in adopting the approach.

Keywords: *Interdisciplinary teaching, reconstructed curriculum, correlated curriculum, shared curriculum, significant learning, critical thinking*

INTRODUCTION:

In modern era an important approach to teaching is interdisciplinary approach. It creates an environment where teacher uses his/her experience in teaching-learning process. Traditional way of teaching focuses only on one discipline. While interdisciplinary approach synthesizes more than one discipline. The interdisciplinary approach provides many benefits that develop into much needed lifelong learning skills that are essential to a student's future learning.

Its dictionary meaning is "branch of instruction". Interdisciplinarity in education is a type of study or research that draws from two or more disciplines in order to gain a more well-developed perspective. For example, women's studies involve a considerable amount of interdisciplinary approach to afford knowledge from fields such as sociology, history, and literature.



Heidi Jacobs defines interdisciplinary as “a knowledge view and curriculum approach that consciously applied methodology and language from more than one discipline to examine a central theme, issue, problem, topic, or experience.”

NEED:

There are many topics that are not addressed in schools because of the breadth and depth of information that is accessible in a globalized, technological society. Much of the curriculum that is contained in textbooks is not sufficient enough to give complete information about every aspect of the topic. Moreover time restriction of a class period restricts a teacher to complete the topic within stipulated time. All of these hindrances make it difficult for a teacher to engage students in studying any material in depth and to make connections with other subjects/topics. The interdisciplinary model of teaching enables students to see the links between subject areas (e.g. the relationship between literature and history or mathematics and science).

In order to achieve the goal that students should learn real world concepts that are broad and convey multiple aspects of more than one discipline at a time it is necessary to adopt interdisciplinary approach in teaching.

TYPES:

The most common approach of multidisciplinary teaching-learning is **reconstructed curriculum**. In this approach concepts from different disciplines are completely merged so that students approach learning content across more than one discipline simultaneously (Adler & Flihan, 1997; Applebee, Adler, & Flihan, 2007). In another approach teacher works in interdisciplinary team which often uses a type of **correlated curriculum**. This approach involves two or more teachers from two or more disciplines working together to correlate their curriculum with each other. Generally, teachers will develop coordinated or integrated lesson plans between two classrooms so that major themes are discussed at the same time (Adler & Flihan, 1997; Applebee, Adler, & Flihan, 2007). In **shared curriculum** approach a course is designed that focuses on broad, thematic and integrated concepts. An example of such a course is a general science course that covers topics in biology, chemistry and physics simultaneously.

BASIC REQUIREMENT :

- Students should have an interdisciplinary orientation as well as deep content knowledge which help in an attempt to bridge gap with other disciplines in terms of acquiring knowledge.
- Teachers to frame the curriculum in a sequential way to integrate the content.
- Curriculum should be flexible enough to be changed according to student's need at a later stage.

- Interdisciplinary units should be shared with all faculty so that they can have the opportunity to contribute their knowledge and skills.
- Students should be involved in the planning and development of interdisciplinary units.

PROCESS:

Effective design and implementation of interdisciplinary classroom explorations, regardless of the level or type of class, entails six key steps.

- **Pre-Instructional Planning** - Prior planning establishes the topics to be examined in an interdisciplinary manner and allows the educator to acquire the requisite knowledge so that an action plan can be developed.
- **Introduce the Methodology to Students** - Explain to students the nature of interdisciplinary approach rather than discipline based learning. Impress upon them the importance of integrating insights and approaches from multiple disciplines to form a framework of analysis that will lead to a rich understanding of complex questions. Make clear that you will be modeling how to approach an issue in an interdisciplinary manner and that ultimately they will be asked to master this skill.
- **Practice Interdisciplinary Thinking** - Students practicing interdisciplinary thinking by reacting what they observe in the classroom is an effective way to acquire this higher order cognitive skill. Students can be assigned the task of rethinking an issue discussed in a discipline based manner in class by bringing another discipline and then attempting to synthesize and integrate their analysis.
- **Provide Feedback** - Extension and interdisciplinary position papers should be evaluated regularly. The aim should be to provide the students with feedback on their ability to understand and delineate the underlying structure and analytical framework of other relevant disciplines (*multidisciplinary thinking*) and to produce an integrated analysis (*interdisciplinary thinking*). Grading might best take the form of check.

FUTURE BENEFITS:

- Interdisciplinary instruction fosters advances in cognitive ability and other educational benefits. Allen Repko (2009) identifies a number of cognitive attributes that interdisciplinary learning fosters. He asserts that interdisciplinary learning helps students to:

Acquire Perspective - the capacity to understand multiple viewpoints on a topic.

Develop Structural Knowledge-both *declarative knowledge* (factual information) and *procedural knowledge* (process-based information). Each of these forms of knowledge are needed to solve complex problems which can be acquired through interdisciplinary knowledge.

- It *Promotes Significant Learning* Fink(2003): There are 6 elements of the educational process that lead to *significant learning* and each of these is a common feature of interdisciplinary forms of instruction.

Foundational Knowledge – acquiring information and understanding ideas

Application – acquiring an understanding of how and when to use skills

Integration – the capacity to connect ideas

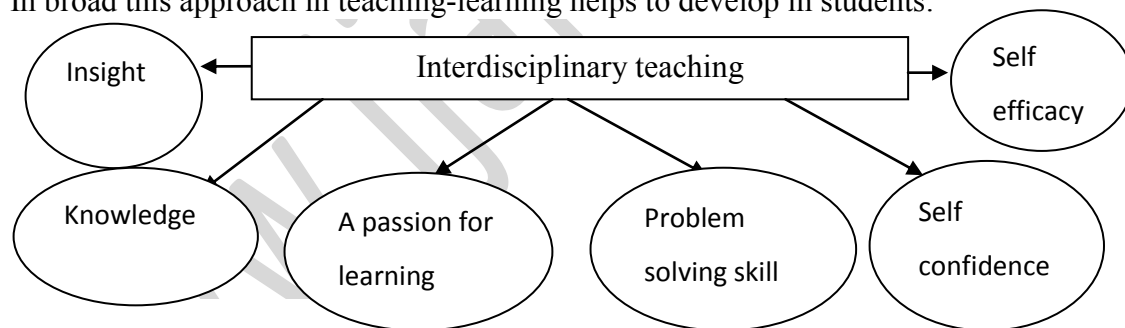
Human Dimension - recognition of the social and personal implications of issues

Caring – acknowledgment of the role of feelings, interests, and values

Learning *How-to-Learn* – obtaining insights into the process of learning

- **Interdisciplinary teaching helps advance critical thinking-** Interdisciplinary instruction helps students understand that there are ethical dimensions to most issues of concern. Ethical considerations entail moral concerns which mean accounting for perceptions of right vs. wrong, good vs. bad, and the provision of justice.
- Developing high order skills in Students.
- It lays the foundation of interdisciplinary techniques will lead to a future of discovery and innovation. For example, the chemist Willard Libby who discovered radiocarbon dating applied his findings in Chemistry to the discipline of Archeology.

In broad this approach in teaching-learning helps to develop in students:



DIFFICULTIES

- Studies suggest that it can be very difficult for teachers to develop their own interdisciplinary curriculum. As a result, it is highly recommended that teachers to use teaching teams as an approach to design and practice the types of intradisciplinary approaches discussed earlier.
- Dedication is needed to design a curriculum that fully integrates two disciplines into a broad, real-world concept.

- Teachers experience interdisciplinary approach as learners therefore teachers generally find it easier to link two similar disciplines (such as biology and chemistry) than two drastically different disciplines, like biology and literature.
- Additionally, student's performance on required examinations may cause resistance to change from methods that provide high scores rather to have deep knowledge.

CONCLUSION:

As the interdisciplinary approach continues to synthesize the characteristics and methods of multiple disciplines while developing lifelong learning skills, they will have to meet the goals of the real world. Interdisciplinary curricula is time consuming and takes collaborative team work to create, which can seem like a hard and exhausting disadvantage. But in the end the interdisciplinary approach inhibits many favored skills that are sought by future colleges and employers. Students and their teachers will advance in critical thinking, communication, creativity, pedagogy, and essential academia with the use interdisciplinary techniques.

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