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Importance of Inter-Disciplinary Studies in Higher Education

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Abstract – The knowledge economy requires an adept workforce and cadre of leaders to help address the many challenges and needs facing companies, governments and societies worldwide. Many of the challenges we face today are new and there will undoubtedly be others arise in the future that will require innovative approaches and solutions to overcome them. No longer are higher education institutions able to train graduates to address all of the current and emerging challenges from a singular disciplinary source. Interdisciplinary (ID) approaches to research and training are essential underpinnings to best meet the dynamic needs of today's higher education students. As the first in a series of forthcoming articles on ID research, this article examines ID trends in higher education research, instruction and degree offerings. It highlights how central ID solutions are in helping to address some of the most complex needs and challenges in higher education today, including how best to prepare higher education graduates for future employment and leadership positions.

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MEANING OF INTER-DISCIPLINARY

Interdisciplinary is a means of solving problems and answering questions that cannot be satisfactorily addressed using single methods and approaches.itares both process and a practice by which a set of purposive arrangements and a sense of a community are established and ultimately integrates ideas with others to form an end product.

The term interdisciplinary is applied within education and training pedagogies to describe studies that use methods and insights of several established disciplines or traditional fields of study. Interdisciplinary may be applied where the subject is felt to have neglected or even misrepresented in the traditional disciplinary structure of research institutions.

Interdisciplinary programs draw from two or more academic disciplines that work together to create a powerful learning experience and emphasize integrative learning, critical thinking, and creative problem-solving.

MEANING OF INTER-DISCIPLINARY STUDIES

Inter-disciplinary studies maybe defineds as a process of answering a question, solving a problem, or addressing a topic too broad or complex to be dealt with adequately by a single discipline or profession.

Inter-disciplinary studies programsoffers students the opportunity to study more than one discipline or fields of study as well as provide students with the opportunity to learn how to do interdisciplinary academic work and research.Interdisciplinary learning requiresthe interaction of knowledge from different disciplines; integration of knowledge from different disciplines; and an overarching topic, theme, or problem that shapes the learning experience.

INTERDISCIPLINARY STUDIES IN THE AREA OF EDUCATION

Degree programs in interdisciplinary studies are available at associates, bachelors, masters and doctoral levels. Interdisciplinary students cancreates their own major by combining various areas of study, such as liberal arts, sciences, busines, and healthcare, among others.an interdisciplinary degree is ideal for students who want a well-rounded education and also desire to focus on more than one field of study. Common prerequisites vary, but include senior projects for master's programs and a dissertation and comprehensive exam for doctoral programs.

Students enrolled in an interdisciplinary studies program choose at least two areas of concentration, usually in disciplines such as engineering, science, humanities, maths, cultural studies, computers and many other options.

Students have many career options in diverse fields with an interdisciplinary degree.

Engineering education, in general, is a reflection of the professional world. In this professional world apart from a toolbox with available methods to solve a problem, are unknown. The interdisciplinary situation in an almost natural way, when complex engineering problems are addressed. To demonstrate interdisciplinary understanding by integrating multiple sources of knowledge, methods, and perspectives, from two or more disciplines to realize a problem solution or a learning outcome, are still relatively limited in pedagogical approaches which challenge students.

Interdisciplinary courses should be an integral part of engineering education because these courses show a student's inclination towards learning on the basis of progress in their field of interest. This interdisciplinary course sets the tone for better career options and improves the quality of education.

As the sciences have grown more complex and our understanding of natural phenomena ever greater, the traditional scientific disciplines have begun to work together and to forge new alliances to address particular areas of concern. The programs within the colleges are continually developing as a reflection of such interdisciplinary approaches to problem-solving.

The field of science education includes work in science content, science process and some teaching pedagogy. Science education provides expectations for the development of understanding for students through the entire course of their education and beyond. Science education relies on wide variety of methodologies, borrowed from many branches of science, computer science, cognitive science, cognitive psychology and anthropology.

The humanities are academic disciplines that study the human condition, they complement the natural sciences. The arts teaches both cognitive and emotional skills that raw information cannot convey.

The interdisciplinary humanities programs are designed to provide students with the flexibilities to be self-directed in their studies. It allows students to experience the breadth and depth of the humanities disciplines while learning the core competencies and content that employers are currently demanding.

IMPORTANCE OF INTER-DISCIPLINARY STUDIES IN HIGHER EDUCATION

- Students discover the value of integrating the study of various academic disciplines suited to their life-long interests.
- Students learn creative solutions to some of today's most challenging problems.
- Students become interdisciplinary thinkers who analytically and creatively embraces new ideas.
- Students develop collaboration skills while working with others who have different perspectives.
- Students are prepared for graduate and professional study, and for careers in new and emerging fields.
- Students are highly motivated as they have a vested interest in pursuing topics that are interesting to them. As a result, the content is often rooted in life experiences, giving an authentic purpose for learning and connecting it to a real-world context. Consequently, the learning becomes meaningful, purposeful and deeper resulting in learning experiences that stay with the student for a lifetime.
- Students cover topics in more depth because they are considering the many and varied perspectives from which a topic can be explored.
- Critical thinking skills are used and developed as students look across disciplinary boundaries to consider other viewpoints and also begin to compare and contrast concepts across subject areas.
- Students begin to consolidate learning by synthesizing ideas from many perspectives and consider an alternative way of acquiring knowledge.
- Exploring topics across a range of subject boundaries motivates students to pursue new knowledge in different subject areas.
- Transferable skills of critical thinking, synthesis, and researchare developed and are applicable to future learning experiences.
- Interdisciplinary knowledge and application of different disciplines can lead to greater creativity.
- Worthwhile topics of research can fall in the 'spaces' between the traditional disciplines.

CONCLUSION

The interdisciplinary study allows for the synthesis of ideas and the synthesis of characteristics from many disciplines. At the same time, it addresses

students' individual differences and helps to develop important, transferable skills. These skills, such as critical thinking, communication, and analysis are important and continually developing at all stages of life. Educational systems are serving students best if they enable and encourage students to build their own interdisciplinary pathway. This approach is sure to foster a love of learning, ignite a spark of enthusiasm and address learning differences for students. However, at the end, the interdisciplinary approach inhibits many favored skills that are sought out by future academicians and employers. Students and their teachers will advance in critical thinking, communication, creativity, pedagogy, and essential academia with the use of interdisciplinary techniques.

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