

TRANSDISCIPLINARY LEARNING APPROACH FOR TEACHER EDUCATION PROGRAM

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Abstract

Transdisciplinary learning approach will help faculty and students to grow their innovative ways and ideas and help the growth and development of nation at large and in long term. Transdisciplinary learning approach helps students to establish relation between various subjects. To prepare prospective teacher that are equipped with pedagogical skills, professional skills, different teaching strategies & instructions & subject knowledge and to equip student to be lifelong learner, self-learner and creative thinker, there is need to think about the curriculum that can facilitate transdisciplinary approach in teacher education program. Transdisciplinary approach in teacher education will consider the following: a clearly defined framework that allows one to highlight each steps, a well-defined and designed transdisciplinary curriculum formulated by expert team, ability of the teacher educators to integrate teaching learning process that aligned with different discipline, thorough discussion of different ideas given by the students, and conversion of the student to become decision maker and problem solver. Global issues will require people from different discipline to work collaboratively, evaluate critically, think critically and come to a solution which in turn will save the humanity and make this world a better place to live. It is about understanding of different discipline and coming to a conclusion that will benefit the masses. Thus transdisciplinary approach in teaching learning process, skills the students for understanding the difficulty of a situation or identify the problem and use critical thinking and divergent thinking to provide a solution with the help of collaborating different discipline.

Keywords: approach, learning, teaching, teacher education, transdisciplinary



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Introduction

Teaching has seen transformation in the ways students have been learning and gaining knowledge and different skills. Teaching needs innovation so as to achieve students understanding of the subjects and gaining desired skills, knowledge. There are many challenges while practicing innovation in teaching learning process. In higher education we notice teaching learning as a one way process without any proper discussion, interaction and exchange of thoughts between the learner and the teacher. Students passively absorb whatever is presented to them and refer learning material to relate to the teaching in the classroom. Learning passively by the students in the higher education is not useful in the long run as it is not able to achieve the set objectives of the course or the program. Transdisciplinary learning approach will help faculty and students to grow their innovative ways and ideas and help the growth and development of nation at large and in long term. Transdisciplinary learning approach helps students to establish relation between various subjects

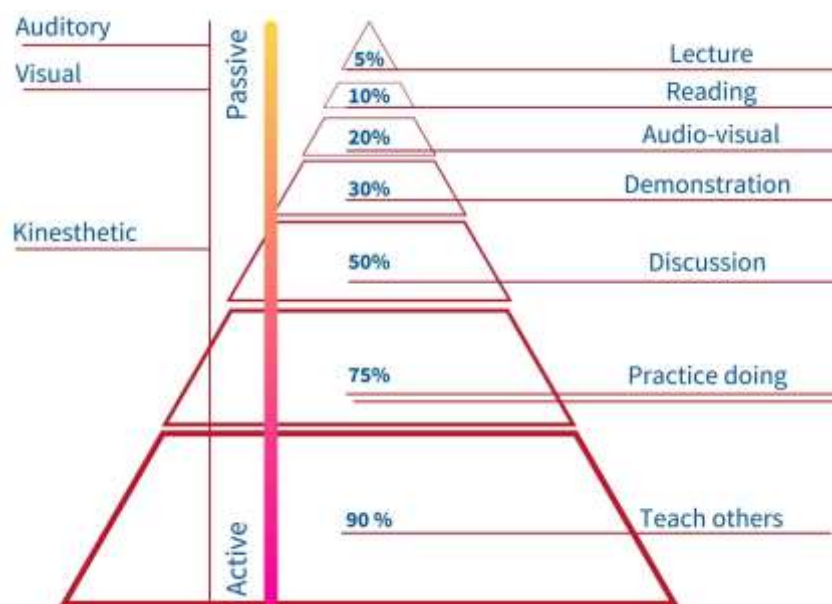
How does Transdisciplinary teaching occur?

This moves beyond routine teaching across disciplines which uses common themes, topics, or problems or concerns that are interconnected with different courses. Transdisciplinarity requires collaboration between disciplines to create an effective curriculum through which the learners collaborate to solve multifaceted problems or issues concerning the 21st century. Transdisciplinarity requires teachers to use innovation, cooperation, and intentionality and constantly evolved to use different teaching learning methods.

Michael Gruneberg explains in his book “Theoretical Aspects of Memory” that our memory is context-based, meaning that we quickly lose knowledge if it is not connected to anything. Transdisciplinary learning is important because it helps create these connections by getting the same idea across various subjects and explaining it in a practical way, which is easy to understand. It is so important nowadays that learners learn to solve problems creatively and in an innovative way. Learners need to know that there is often more than just one way to solve a problem and that they can approach a problem with various ways. Research studies show that using different learning methods and materials improves retention and recall of information by the learners.

The learning pyramid, developed by the U.S. National Training Laboratory, suggests that most students only remember about 10% of what they read from textbooks, but retain nearly 90% of what they learn through teaching others. Transdisciplinary learning helps our teachers to apply various and the most effective teaching methods. As listed in the pyramid

teaching others helps students remember their lessons. The below pyramid clearly highlight which method is most useful and effective for teaching learning among the students. It also states the type of learner the student is how effective are the teaching methods that are applied by the teacher. Discussion methods is 50% effective and the student is active in this method, in project based teaching the student is active and the method is 75% effective for the student , when student is trying to teach others he is 90% active and learning first occur to him and then he can teach others.



Why is Transdisciplinary teaching important?

For learning and development, it is imperative that there should be varied and vivid use of teaching methods at higher level. All disciplines take a constructivist approach to learning and development, sharing the belief that learners must be viewed as agents of their learning and development. Learner must regulate self-learning.

Implementation of transdisciplinary learning strategies is important to achieve learning goals and to promote learning in innovation way by the means of providing content in the way of learners demand. It advocates teachers to create critical thinkers by the means of classroom teaching. Teaching learning competencies of the 21st century differs in vivid sense. We cannot deal with the present generation by the methods of teaching that were used in past. It is required that the teachers must possess the same competencies that we expect to instill in our 21st century learners. Teachers must be aware of the different methods of teaching as well as learning theories and teaching model, and also involve in curriculum development.

It is imperative for the teacher educator must establish a foundation for learners for how their discipline thinks; in other words, learners must be taught how to think (critically) inside the proverbial disciplinary box before being asked to think (critically) outside of it. Stakeholders must come together to develop a transdisciplinary curriculum. Within the curriculum, collaborators should identify ways to help learners develop a deep understanding of different perspectives and explore the challenge through different lenses. The curriculum should provide regular opportunities for learners to tackle questions from multiple disciplinary perspectives and connect those efforts.

Thus as per this research study there need to be consideration for developing the curriculum to propagate a transdisciplinary rather than interdisciplinary or just focusing on one discipline. Thus a transdisciplinary program should involve collaboration and connection between disciplines rather than just a shared theme taught independently within individual disciplines.

Transdisciplinary teaching and learning operates from the belief that there is knowledge, concepts, skills, attitudes and actions that transcend subject area boundaries and forge the curriculum into a coherent transdisciplinary whole that is engaging, relevant, challenging and significant. For the learners to be holistically educated, he must be able to make connections across the disciplines, discover ways to integrate the separate subjects, and ultimately relate what they learn to life.

The transdisciplinary model promotes learners by allowing them to get vivid experience. Learners move beyond looking for a 'correct' or the most valid one solution and try to explore the implications and solutions to, opportunities and challenges that reflect the changing times. It encourages the integration of many ways of knowing, and perspectives from all other learners in the classroom. Transdisciplinary teaching learning model helps teacher educators achieve learning objective one at a time and provides specific and targeted information to teacher educator. The model will guide the teacher educator on how to use teaching skill and allow teacher educator to implement Transdisciplinary approach in teacher education .The model will support learners to learn basic concept and to learn approaches to various subjects.

Transdisciplinary teaching approach

Transdisciplinary teaching approach will allow teacher to go beyond individual discipline and help learners to collaborate, construct new knowledge thinking and find solutions for the problem that are concern to global population in today's scenario.

Thus transdisciplinary teaching shift beyond just with the routine teaching in the classroom and collaborate with other discipline and it involves using common themes, topic, current problems that occur in different courses. And it requires collaboration and connections between different disciplines to form a curriculum that helps student to cooperate and connect with each other to solve any current problems or issues that have occurred in their surroundings. It requires intentional efforts by the teacher and the students in collaboration and cooperation.

A transdisciplinary program should begin by identifying a complex, multifaceted, global problem in collaboration with disciplines that could work together on composite solutions to the challenge. We can identify the following

1. We first need to identify a problem that is of global concern that we need to know about the different discipline that can be collaborated on finding solutions for the concern problem.
2. While thinking about different discipline and their branches [Business: Accounting, economics, finance, management, marketing , Humanities Art, history, languages, literature, music, philosophy, religion, theatre: , Natural and Applied Sciences Biology, chemistry, computer science, engineering, geology, mathematics, physics, medicine: , Social sciences: Anthropology, education, geography, law, political science, psychology, sociology]. Different disciplines are source of information for different subjects there is association between different subjects.
3. Teacher must establish a foundation for the students within each of the discipline and allow them to understand how each discipline thinks, thus it is about teaching students how to think inside of each particular discipline and then ask them to think for wider aspects thus leaving the disciplinary aspects.
4. When a teacher wish to use transdisciplinary teaching approach, she needs to consider developing collaboration with other partners such as colleagues, institutions, other academic divisions or other discipline department.
5. It is also important to note that there should be involvement of all other associated with the teaching learning process and they must collaborate to develop transdisciplinary curriculum. Transdisciplinary curriculum developers should highlight the paths to help the students create a thorough understanding of different context for all other disciplines in general. The student should be able to handle the challenges posed by the different situation by the use of multiple disciplines.

6. Teacher and educators must ensure that there is use of transdisciplinarity while preparing the curriculum, thus there must be involvement of different discipline, in such a way that the teacher is able to teach to the students to establish and develop interrelation between varied discipline in order to reach a solution by using approaches of different discipline.

Transdisciplinary teaching approach for Teacher Education Program: How to make it happen

The Teacher Education Policy in India has changed from time to time. The Teacher Education Policy is based on the recommendations suggested in reports from Education Committees and Education Commission. The recommendations given by the Kothari Commission (1966), the Chattopadhyay Committee (1985), the National Policy of Education (1986, 1992), Acharya Ramamurti Committee (1990), Yashpal Committee (1993) and the National Curriculum Framework (NCF 2005) have played significant role in evolving Teacher Education in India. The newly introduced National Education Policy 2020 proposes the revision of all aspects of the education structure, & to create a new system that is aligned with goals of 21st century education and provide students with the new reformed curriculum and teaching methodology that lead to holistic development of the students. The Teacher Education program should be designed in such a way so as to improve pre-service teachers' effectiveness and result in overall development of the student.

Previous studies have shown that good and effective teaching makes a difference in how the student grasp the knowledge and develop the relevant skills. To create a good and effective and approachable teaching learning system it is essential to develop teacher training program that are developed keeping in mind wider arena and approach. It is essential that pre-service teachers are equipped with pedagogical skills, professional skills & content knowledge.

Learning is lifelong process and we know that humans are lifelong learner and they also learn from day to day situation. There are different learning types, learning styles & approaches to learning. Each student has his own way of learning & understanding of concepts and situations. For learning to be effective it is important that teaching learning process should cater to the need of the learner. Teaching techniques should be developed in such a way that it facilitates learning. Thus keeping in mind the need of 21st century learner the curriculum of Teacher Education program has been designed and changed as per the demand of the current scenario that are faced by the world in general. To prepare prospective teacher that are equipped with pedagogical skills, professional skills, different teaching strategies & instructions &

subject knowledge and to equip student to be lifelong learner, self-learner and creative thinker, there is need to think about the curriculum that can facilitate transdisciplinary approach in teacher education program. Transdisciplinary approach in teacher education will consider the following: a clearly defined framework that allows one to highlight each steps, a well-defined and designed transdisciplinary curriculum formulated by expert team, ability of the teacher educators to integrate teaching learning process that aligned with different discipline, thorough discussion of different ideas given by the students, and conversion of the student to become decision maker and problem solver.

Conclusion

Interdisciplinary and transdisciplinary approaches to knowledge have developed considerably over the last 50 years. There is an increasing trend for openness to discuss new views of student learning. Furthermore, national and transnational involvement at the level of considering quality frameworks at the general level as well as within the disciplines help to mitigate some of the challenges of higher education. Weaving together of transdisciplinary approach Piaget and others imagined 50 years ago, holds promise to augment student learning and development, but also highlight the value of higher education in new and important ways. It may be noted that teachers are the creators of tomorrow future. Students will face many difficult problems, issues or situation in near future or in present. Post pandemic we are aware what global threat we have and how it was difficult for the masses to tackle this unavoidable situation. We may face more such problems or more difficult situation than this; no one can know the future only thing which we can do is be cautious of the situations in past and about the future. We all are aware about the disastrous natural calamities that are hovering over the world and how important and urgent it is to search collaborative solutions for this global issue. We can clearly state that such difficult situation will requires people from different discipline to work collaboratively, evaluate critically, think critically and come to a solution which in turn will save the humanity and make this world a better place to live. It is about understanding of different discipline and coming to a conclusion that will benefit the masses. Thus transdisciplinary approach in teaching learning process skills the students for understanding the difficulty of a situation or identify the problem and use critical thinking and divergent thinking to provide a solution with the help of collaborating different discipline.

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