

Values of Transdisciplinary Teaching

Introduction

The addition of integrative, transdisciplinary pedagogical approaches has numerous benefits and barriers on the students, educators, and administrators involved. It is important to note that many of the barriers that block integrated teaching strategies can be removed. The long-term benefits that stem from transdisciplinary learning suggest that implementing these pedagogical approaches can be extremely advantageous.

Advantages and long-term benefits for students

Students who complete transdisciplinary studies can be rewarded with academic growth, experience dealing with real-world problems, and in becoming a well-versed individual.

Academic growth. Transdisciplinary teaching opportunities facilitates deep and meaningful learning experiences for associated students (Jones, 2009). This method of learning can lead to the formation of transferable skills, such as critical thinking, adaptability, problem solving, and academic confidence (Jeder, 2014; Jones, 2009; Styron, 2013). Disciplinary integration allows students to learn topics they are interested in that are not presented in a traditional learning perspective. Allowing these students to bridge the gap between disciplines gives them the advantage to look at problems through various disciplinary lenses, helping the students become engaged learners (Jones, 2009; Mathison & Freeman, 1998).

Real-world preparation. A major long-term benefit of transdisciplinary learning is the real-world connection these opportunities offer students. Students who have experience in transdisciplinary studies are more adept to real-world problems, as these chances mirror the complexity of problems that may arise in future positions (Styron, 2013). Single disciplines cannot grasp the whole of practical problems; therefore, students benefit from integrative, holistic, and realistic learning (Pedagogy in Action, 2018; Styron, 2013).

Being a well-rounded student. The increased motivation and higher engagement from students participating in integrative studies can be carried out into non-integrative areas of learning. Consequently, students develop strong understandings and applications of general concepts (Mathison & Freeman, 1998). When students are actively involved in their education and articulate their views on real-world problems, they can become significant members of their community (Mathison & Freeman, 1998).

Barriers and challenges for students

The challenges that occur for students when looking at transdisciplinary learning opportunities is their lack of awareness and their inexperience with this teaching strategy.

Lack of awareness. A significant barrier stopping students from initiating an interdisciplinary approach to learning is wariness that following a jack-of-all-trades path of education may be of less value compared to having full expertise in one field of study (Styron, 2013). This barrier becomes thicker if students are not provided knowledge on the usefulness of transdisciplinary studies. As integrative approaches are less prominent in early forms of education, students may not fully understand how these opportunities can be beneficial (Jones, 2009). Meaning, if information is not accessible by schools for oncoming students, students may not be active in seeking out transdisciplinary studies.

Inexperience and incompetence. Many students lack confidence to follow integrative learning due to inexperience, as previously mentioned. Transdisciplinary methods are not taught prior to post-secondary education, leaving students uneducated on the value these experiences hold. Individuals can find themselves unprepared to tackle complex problems by formulating conclusions or posing questions (Styron, 2013). This results in students who have been taught to be passive learners rather than active participants, which hinders their ability to get out of their comfort zone and gain valuable skills through complex, integrative approaches of learning (Bryant, *et al.*, 2014; Budwig & Alexander, 2020).

Advantages and long-term benefits for instructors

Transdisciplinary teaching has various benefits on instructors, such as further learning opportunities, the development of new skills, and strengthening relationships with other faculty members.

Further Discovery and Learning. Interdisciplinary approaches permit teachers to be more involved and active in teaching what they want while eliminating harsh discipline lines that keep them siloed from other teaching opportunities (Jones, 2009). Introducing transdisciplinary approaches to teaching can allow educators to further themselves in pedagogical skills, such as critical thinking, communication, and creativity (Jeder, 2014; Jones, 2009). The long-term benefits that stem from these skills can include; strong and meaningful relationships with students and other faculty, further development of research, and discovery of new, useful information within one's discipline (Mathison & Freeman, 1998). Allowing educators to re-examine their understandings and develop new ideas towards their discipline can provide instructors with valuable growth in their respective field (Bryant, *et al.*, 2014).

Build competencies. Instructors who have the interest and willingness to take their discipline and develop an integrative and collaborative teaching approach should be encouraged and given the appropriate aid to do so. Support and training workshops ensure instructors are competent to attempt a holistic teaching strategy while generating valuable skills (Jeder, 2014). A long-term benefit from accomplishing an integrative pedagogical approach are four core competencies; values/ethics, roles/responsibilities, communication, and collaboration (Styron, 2013).

Strengthen faculty connections. Collegiality, from integrative teaching, allows instructors to discover the connections between various disciplines giving them a chance to become transdisciplinary experts rather than disciplinary experts (Mathison & Freeman, 1998).

Communication of information across disciplines assists in the initiation of new academic explorations and helps to build on previous research. Working with other instructors can be additionally useful for professional development- letting instructors learn from others teaching styles while also receiving feedback on their own (Bryant, *et al.*, 2014).

Barriers and challenges for instructors

The initiation of transdisciplinary studies lies in the hands of educators themselves, although several barriers can obstruct this such as, insufficient time or resources available, incompetence, or concerns on behalf of one's academic reputation.

Insufficient time for collaboration. A Major obstacle to overcome when introducing the collaboration of educators from multiple disciplines is how to share responsibilities while working as a team (Jones, 2009). Educators must collaborate to design a curriculum, as well as to instruct and grade students. If there is not adequate time for group discussions or lack of resources and training opportunities, the quality of curricula would not reach the level required to get the most out of these learning chances (Bryant, *et al.*, 2014; Jones, 2009).

Incompetence. Even instructors with the highest interest to initiate interdisciplinary education can struggle with decisions on what content to implement or replace in the new curricula (Mathison & Freeman, 1998). Before the development of any integrative learning approach can begin, educators can be blocked if they do not have the required competencies to formulate transdisciplinary pedagogical models. It is vital to have access to training and support (Styron, 2013).

Reputation concerns. Instructors may have concerns that transdisciplinary teaching will separate them from the core of their field and isolate them to the fringes of their discipline (Jones, 2009). This may deter an educator from starting an integrative teaching model if they feel there is a possibility for their academic reputation to decline while also damaging chances for tenure (Jones, 2009). So, educators who are not given encouragement or support from administrators or other faculty, may never begin an integrative teaching approach.

Advantages for administrators or universities

Universities who follow integrative teaching can acquire enriched learning, improvements and recognition to many faculty members, as well as quality recruitment opportunities for oncoming students.

Enriched learning. Interdisciplinary studies create teams of students and teachers that are provided with further educational experiences through enriched learning opportunities (Jones, 2009). Encouragement and support for everyone involved in integrative studies creates a team of hardworking and motivated individuals that will entice others to join the community.

Faculty improvements and recognition. Research advancements through integrative approaches are valued and can increase attention and success within the university (Bryant, *et al.*, 2014). Educators who are supported by various workshops and developmental opportunities form a team of extremely reputable faculty available to support students and other educators.

Recruitment opportunities. The active participation and success in transdisciplinary models from both the students and educators can attract top students to these schools. These learning opportunities provide highly regarded experience in academic resumes (Jones, 2009). Thus, forming a community of successful students, alumni, and faculty that have a practical sense of real-world problem solving, encompassed by curricula that delivers one of the most useful approaches to learning (Mathison & Freeman, 1998).

Barriers and challenges for administrators or universities

Success of transdisciplinary learning can be blocked if course quality is poor, if training and aid for educators is negligible, or if specialty biases arise.

Course quality. The major barrier for universities in regard to the initiation transdisciplinary of teaching is maintaining the calibre of education that was agreed upon while creating the integrated programs and courses. To obtain this quality of learning and delivery, extensive time and effort is required from various faculty members (Budwig & Alexander, 2020).

Training and Services. There must be support, such as skill building workshops to assist with teaching strategies, as well as faculty communities to help with professional development, coaching and support for educators and administrators (Bryant, *et al.*, 2014).

Specialty bias. A challenge that may be posed after initiating transdisciplinary learning strategies is that specialization of interdisciplinary fields can occur if administrators and educators fixate on one area of study while overseeing others. This can halt further integration from other disciplines to occur due to the development of niche pockets of integrative, but somewhat restrictive areas of study (Jones, 2009). Therefore, the ambitious idea of forming integrative studies needs to remain fluid across all disciplines (Jones, 2009).

In summary

Transdisciplinary teaching has multiple advantages to not only the students included, but also faculty and the university as a whole. Although there are several obstacles when applying integrative learning, they are not permanent and can be overcome. Therefore, with adequate time, resources, and effort, the long-term benefits of an integrative pedagogical approach will be expressed in all students, educators, and administrators involved.

References

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