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Theories of learning (behavioural, cognitive and social), and their application to special education

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Abstract
The ideas of behaviourism, cognitivism, and constructivism are explored in this review article as they are thought to support the philosophy and practise of inclusive education. We claim that the three theoretical frameworks may be used to generate inclusive education methods for kids with exceptional needs. We argue that the needs of all students, including those with special needs, are best met by inclusive education methods that take an eclectic approach to the application of theory-driven inclusive education.

Keywords: Inclusive Education, Behaviourism, Cognitivism, Constructivism

Introduction

The concept of "inclusive education" for students with disabilities has been widely adopted in recent years, and UNESCO has been a driving force behind this trend (UNESCO, 1994). It is now widely accepted that inclusive education is the best way to guarantee all students have access to a high-quality education. While laws mandating inclusive education have been passed from a rights-based attitude, putting them into practise calls for a shift in how administrators and educators see their roles. Despite claims that educators as a whole support inclusion, the inclusion of certain students, particularly those who are struggling emotionally or behaviourally, is nevertheless seen as problematic (Hornby, 2014). In terms of faculty, there are problems with the realism of inclusion, the responsibilities placed on instructors, the quality of assistance provided to students, and the level of knowledge, comprehension, and skill expected of teachers. Challenges for normal education instructors include coordinating with other organisations, dealing with sensitive student and family matters, and balancing the needs of their pupils with those of their profession. Some educators have questioned the usefulness of alternate locations and services for the inclusion of kids with special needs, citing concerns about the time and effort required to establish appropriate methods of providing assistance. It's complicated, and schools may have to resolve acknowledged conflicts in imperatives if they want to become really inclusive in practise. Tolerance, understanding, and respect for diversity are promoted, which is why many people support for inclusive activities not just for the people who would directly benefit from them, but also for the rest of the school community. However, inclusive education institutions need radically different strategies than the standard classroom. Both teachers and students are seen as having an active, transformative role in the decision-making process, which necessitates their active participation.

Behaviourism-based Inclusive Education Practices

Behaviourism Beginning in the early 20th century, educational psychology emerged as a distinct academic field. Psychologists of the time were focused on knowing how the brain works. They proposed a hypothesis that accounted for variations in animal behaviour. Many psychologists from many nations were involved in this progress. Ivan Pavlov (1849-1936), Edward Thorndike (1874-1949), John B. Watson (1878-1958), and B. F. Skinner (1904-1990) stand out among the others. We will not be

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discussing their specific roles here. Instead, we'll make an effort to grasp the substance of this method and its impact on scientific education.

The behavioural paradigm places emphasis on what can be directly seen. Learning, in the eyes of behaviour theorists, is the process through which a person picks up new behaviours in response to previously existing stimuli in their environment. They conclude that conditioning is a fundamental method of education. Classical conditioning and operant conditioning are two forms of conditioning. A physiologically powerful stimulus is matched with a neutral stimulus in a learning method known as classical conditioning. The process of learning via the use of reinforcement and punishment is known as operant conditioning. In accordance with the principles of behaviourist theorists, class discussions centred on methods for altering students' actions. Instruction in which a teacher directly imparts knowledge to a student in a classroom setting has traditionally been seen as the most efficient method of education. It was essential to guarantee the kid learned all the educator had planned to cover. Methods were proposed to help one acquire such expertise (mastery learning). Teaching science, in the eyes of behaviourist philosophers, is to familiarising students with the scientific material made accessible to us by scientists, without paying any special attention to the methodology of research. The following are a few techniques developed as a result of this line of thought.

In-Class Review and Tutoring If a student is not performing up to the teacher's standards, they may need to get remedial education. The emphasis is on identifying the problem and fixing it, as the name indicates. If a kid isn't learning at the desired level of expertise, someone tries to figure out where they're falling short and fix it. The creation of diagnostic tests is a direct outcome of this line of reasoning. The questions on these examinations are structured to determine whether or not the student has grasped the many components of a larger, more complex idea presented in a logical progression. For this reason, concerns about evolution's overarching idea would be broken down into their component parts. The instructor would be able to better assist the student by analysing the student's responses and learning more about the specific types of assistance the student need. Understanding is essential, but remediation classes can't only focus on it. Skills in learning are essential. Many pupils struggle since they don't have the essential learning desire, reading comprehension, math abilities, etc. Improvement is necessary for pupils to gain knowledge through classroom discussions. The goal of the Talent Search and Nurture among the Underprivileged project at the Homi Bhabha Centre for Science Education (TIFR) was to identify the learning barriers that students from economically disadvantaged backgrounds face and then create effective remedial inputs to help them overcome those barriers. Studies conducted over the course of a decade (1980s-1990s) shown that students' ability to overcome not just their lack of prior preparation but also their socioeconomic status with the help of targeted remediation education.

Behaviourists' effect on science teaching meant that classroom time was spent only on theoretical debates that yielded only declarative knowledge. However, scientific teachers quickly came to appreciate the value of knowing how things are done. So, classroom labs were installed, and pupils were given opportunities to experiment with basic materials. Students' ability to independently plan and carry out experiments in the laboratory was emphasised. You may see an example of activity-based scientific education in action at a programme in England that was funded by the Nuffield Foundation. Academics from many fields collaborated on this initiative to create a lab curriculum for efficient scientific education. All classroom instructors were given a printed copy of a comprehensive laboratory guide. This project's influence on scientific education has endured. Professionals involved in the Nuffield Science Teaching Project continue to have their experiments adopted by professional educators to this day. According to the Hoshangabad Science Teaching Project (HSTP), a group of Indian

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scientists devised an approach to education that emphasises hands-on experience. Many schools in central India now have access to updated textbooks. The educators were given opportunities to learn more about the new approach. The results of the evaluation demonstrated that the students' knowledge had increased as a result of working on this project.

Project-based Learning

In a project-based classroom, students gain knowledge and experience through action and practical application. The actions that students do in the actual world mirror those that working adults do. Students in a project-based learning environment are encouraged to do their own research, develop their own hypotheses and explanations, engage in robust debate about these concepts, and ultimately test and refine their own ideas as well as those of their peers. It differs greatly from more conventional approaches to education. Every aspect of the scientific curriculum is broken down into hands-on projects and tasks for the students to complete in this approach to education. There are sufficient materials available for pupils to accomplish their assignments set by the instructor. Having students work together on a project is a great way for them to learn from one other while still getting some work done for their grade. However, using this strategy means more effort for the educator. The instructor must do a great deal of groundwork in order to inspire their pupils to take on the assignment. The onus is on the educator to choose engaging and informative projects that will keep the students engaged and help them learn. For this reason, this approach to education has not yet gained widespread acceptance. Teachers often select a few projects for students to work on in small groups rather than attempting to cover the whole curriculum via the project approach.

Conceptual Change

A child's understanding is continually built upon the foundation of their daily experiences. They may make conclusions or observe principles about Nature that are at odds with the scientific consensus. These are seen as different ways of thinking or as misinterpretations. Recent studies have shown that the vast majority of elementary school students accept the idea of a geocentric cosmos. The role of the educator is to correct misunderstandings like this via targeted instruction. Like many students, you could assume that the heart generates blood. The blood is really made in the bone marrow, which takes some time to explain to them. The investigation of different perspectives is an area where constructivist thought has had a significant impact on how science is taught. Following Rosalind Driver's lead, several scholars have investigated this topic, uncovering new perspectives held by pupils raised in various cultural contexts. Among the many results of their efforts is the discovery of students' misunderstandings and the creation of tools for fostering conceptual shifts. The first step for a teacher using this approach is to determine whether or not pupils' initial assumptions are consistent with commonly held beliefs. If they don't, you need to fill in the gaps with explanations and suggestions that will help them grasp the concept properly. A Model of Conceptual Transformation

Conclusion

Educational psychology has undergone significant conceptual shifts in recent decades, which have contributed to this development. Alterations to classroom dynamics occurred along with the shift from behaviourism to constructivism as an educational philosophy. It's important to remember that the new learning theory has not rendered the old ones useless. The subject being taught and the desired outcome should inform the selection of a suitable learning theory for classroom engagement. A behaviourist

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strategy might be helpful for teaching students a certain skill. Instead, a cognitivist strategy should be used if the goal is to promote the growth of useful schema. In order to foster the development of the child's capacity for self-directed learning, a constructivist strategy is required. The holistic growth of young children will result from the thoughtful integration of these ideas. The study of science teaching has just recently become a recognised academic discipline. It is a multidisciplinary field that draws from physics, psychology, and social science. Scientists in the classroom saw the process of instructing and being instructed as its own scientific discipline. Along with scientific progress, they also considered advances in society, economics, technology, etc. They have created useful teaching strategies and relevant educational resources in response to these changes. They should be shared with working educators who are tasked with educating their pupils for life in the twenty-first century. According to Hodson, "now is the moment for action," and it is imperative that we "educate the teachers both in pre-service and in-service training courses" in order to bring about meaningful change in the way classes are taught.

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