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Theories-based Inclusive Education Practices

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Abstract

This review paper examines the theories of behaviourism, cognitivism, and constructivism that are considered to underpin the theory and practice of inclusive education. We argue that education practices related to the inclusion of students with special educational needs can be derived from each of the three theoretical perspectives. By adopting an eclectic approach to the use of theory-driven inclusive education, we suggest that inclusive education practices best serve the needs of all students, including those with special needs.

Keywords: Inclusive Education, Behaviourism, Cognitivism, Constructivism

Introduction

The United Nations Educational, Scientific and Cultural Organization (UNESCO) has played an influential role in the consolidation of the idea of inclusive education for children with special educational needs in schools (UNESCO, 1994). Inclusive education has been adopted to ensure the quality of and right to education for all learners and is now a contemporary educational approach recognized globally (Subotić & Anđić, 2014; United Nations Convention on the Rights of Persons with Disabilities, 2016). While inclusive education has been enacted from a rights-based philosophy, implementation requires a change in the mindset of school principals and teachers. Although, overall, teachers are said to support inclusion, the inclusion of different groups of children, especially those with social, emotional or behavioral difficulties, continues to be considered as problematic (Hornby, 2014). Issues faced concerning teaching staff include the practical feasibility of inclusion, classroom teacher demands, the quality of support for students, and the degree of knowledge, understanding, and expertise required by classroom teachers (Botha & Kourkoutas, 2016). The demands of working with other agencies and issues relating to decision-making and the roles of parents, students, and other professionals is also challenging for regular education teachers (Mowat, 2010). The uncertainty and time-consuming nature of identifying different approaches when providing support, the place of alternative settings and services for the inclusion of students with special needs have also received criticism from some educators (Hulgin & Drake, 2011).

According to Mowat, '... inclusion is an elusive and much-contested concept.' (2010, p. 631). It is highly complex, and in order for schools to become truly inclusive in their practice, any known conflicting imperatives may need to be addressed. Individuals generally advocate for inclusive efforts because of the benefits, not only those being included but for those in the school community as a whole, on the basis that it should promote tolerance, understanding, and respect for diversity. Inclusive schools, nonetheless, require fundamentally

different approaches compared to traditional education. Participatory decision making is required, and there is an increased social responsibility of all staff with both educators and students considered to have an active and transformational role in the process.

The purpose of this paper is two-fold: (1) to review the literature related to the foundations of the theoretical perspective of behaviourism, cognitivism, and constructivism for supporting inclusive education; and (2) to suggest applications of theories-based inclusive education practices.

Inclusive Education: Theory to Practice

Inclusive education is understood to refer to the placement of students with special educational needs in mainstream settings, along with other students without disabilities (Artiles, Dorn, & Christensen, 2006). Inclusive education determines appropriate educational practices used in general education schools by offering a variety of educational services to help all students with special needs best learn according to their abilities and needs (McLeskey, Hoppey, Williamson, & Rentz, 2004). Salend (2011) defines inclusive education as a philosophy that brings stakeholders together to create a school environment based on acceptance and belonging within the school and the community.

Theoretical perspectives, as the principle theories supporting inclusive education practices, are the focus of this paper. The focus is to emphasize that the transition from theory to practice relates to the application of important aspects of learning theories to optimize instructional actions (Ertmer & Newby, 2013). Ertmer and Newby note that learning theories provide curriculum designers with instructional strategies and techniques verified to facilitate learning in classrooms, which includes the need to implement inclusive education practices for students with special educational needs, especially in general education settings. These instructional strategies and techniques include modifications of curricula and instructional design, the development of structures, and the use of evidence-based practices. Three major theories are considered to underpin inclusive education theory. Effective inclusive education practices should incorporate ideas from each of these theories so that teachers can successfully make curricular and instructional decisions for each student. Therefore, each of the theories underpinning inclusive education practice is theoretically and practically detailed as follows.

Behaviourism-based Inclusive Education Practices

Theoretically, behaviourism is one of the classical theories of learning and also recognized as the oldest (Nalliah & Idris, 2014). Behaviorism is known as a predominant psychological model (Harold & Corcoran, 2013), as suggested by the metaphor for, 'learning as the acquisition of stimulus-response pairs' (Doolittle, 2014). Behaviourists 'believe the objective of the theory is to impart to the learner the knowledge of reality' (Hickey, 2014, p. 17). Behaviourism occurs when consequences are associated with the stimulus or response that is followed by reinforcement to be maintained (Ertmer & Newby, 2013). Even though behaviourism has been heavily criticized over the years, the behaviourist approach is "still vital and is considered a scientific enterprise" (Abramson, 2013, p. 56). To summarize, the key principles of behaviourism that support education are: behaviour is learned, behaviour is governed by the setting in which it occurs, teaching does not occur without learning, learning equates to changing behaviour, behaviour is governed by what follows actions, and there needs to be a focus on the observable (Harold & Corcoran, 2013).

Practically, behaviourism-based inclusive education practices include the application of behaviourism in inclusive education settings, which clearly appears in the emphasis on student behaviour and performance in manipulating stimulus materials (Ertmer & Newby, 2013). Examples of behaviourism-based inclusive education practices are included in well-known instructional approaches such as explicit or direct instruction (Al-Shammari, 2019A; Steele, 2005). The method has shown positive research results with students with special needs in general education classrooms (Al-Shammari, Al-Sharoufi, & Yawkey, 2008). Practices based on explicit or direct instruction are systematic, involving a step-by-step process provided by a teacher and followed by students during instruction (Zhang et al., 2016). In addition, explicit or direct instruction-based practices that

break down tasks into their smallest elements are widely used for teaching students with special educational needs in inclusive education classrooms (Steele, 2005).

During the instructional process, Behaviourists assess learners to determine at what point to begin instruction and which reinforcers are most effective. The teacher's role during the process is to: (1) determine which cues can elicit the students' desired responses; (2) arrange practices where prompts are paired with the target stimuli which are expected to elicit the responses in the 'natural' setting; and (3) arrange environmental conditions so that students can make the correct responses in the presence of those target stimuli and receive reinforcement for those responses (Ertmer & Newby, 2013).

Basic assumptions and characteristics of behaviourism are embedded in many current instructional practices. For instance, some of the best interventions for students with special needs in inclusive education settings include: direct instruction, functional behavioural analysis, and assessment, evaluation, and feedback (Hattie, 2008). Direct instruction is commonly delivered in a teacher-led environment during which the teacher facilitates student learning through targeted lessons. For example, the teacher introduces a lesson, teaches a structured lesson, monitors student understanding, and receives student feedback to ensure understanding. Functional behavioural analysis categorizes and targets specific behaviours and their antecedents to change disruptive behaviours in the classroom, and encourage positive behaviour changes. A functional behavioural analysis of a student would involve using a chart with specific targeted behaviours monitored for frequency, time of day, antecedents, and consequences. Formative assessment, evaluation, and feedback assess the progression of learning and examine the gaps where remediation or even enrichment is necessary. An example of this in a behaviouristic classroom is the use of "Exit slips" which involves questions posed by teachers and students answer before leaving the classroom for the day including: "things I learned," "things I found interesting," and "questions I still have."

It is therefore considered that the Behaviouristic theory is related to several of the best practices in inclusive education. Direct instruction is the primary delivery of instruction in behaviourism within a teacher-centred environment in which the teacher designs and delivers lessons based on the objectives of the students. The behaviouristic classroom environment focuses upon conditioned responses, which is the basis of functional behavioural analysis. Since the behaviouristic classroom focuses upon condition-responses, assessment, evaluation, and feedback, all are considered ideal methods for testing the transfer and generalization of knowledge gained.

Cognitivism-based Inclusive Education Practices

Theoretically, cognitivism essentially focuses on the attributes of one's thinking, memory, self-reflection, and motivation to learn. Piaget argued that "during each developmental stage, the ability to learn and the process of learning is different" (Evgeniou & Loizou, 2012, p. 666). The cognitive approach focuses on the mental activities of the learner that influence responses and acknowledges the processes of mental planning, goal-setting, and organizational strategies. Cognitive theories place emphasis on making knowledge meaningful and helping learners be more organized and able to relate new information to existing knowledge stored. In addition, cognitivist approaches emphasize thought processes and their importance in learning, including memory, thinking, reflection, abstraction, and metacognition, which are all needed in the learning process (Petersen, 2014). Therefore, cognitivist instruction "must be based on a student's existing mental structures or schema to be effective" (Ertmer & Newby, 2013, p. 60).

Practically, cognitivism-based inclusive education practices involve the applications of cognitivism in inclusive education settings, which clearly appears in the emphasis of mental information processing and interactions in guiding student learning (Ertmer & Newby, 2013). Students are encouraged to express and connect their prior knowledge, learning experiences, and abilities to learn new information being provided to them. For instance, instructional strategies such as framing, outlining, mnemonics, concept mapping, and advance organizers should be specifically used to support the cognitive needs of students with special educational needs (West, Farmer, & Wolff, 1991).

Specific assumptions or principles that have direct relevance to instructional design practices include: (1) emphasis on the active involvement of the learner in the learning process (i.e. self-planning, monitoring, and revising techniques); (2) use of hierarchical analyses to identify and illustrate prerequisite relationships (i.e., cognitive task analysis procedure); (3) emphasis on structuring, organizing and sequencing information to facilitate optimal processing (i.e., use of cognitive strategies such as outlining, summaries, synthesizers, advance organizers); and (4) creation of learning environments that allow and encourage students to make connections with previously learned material (i.e., recall of prerequisite skills, use of relevant examples, analogies) (Tunmer, Chapman, Greatney, & Prochnow, 2002).

Cognitivism-based inclusive education practices are implemented by applying different instructional approaches focused on learning activities, such as note-taking (Boyle & Rivera, 2012), underlining (Swanson, Orosco, & Lussier, 2014), summarizing (Wittrock & Alesandrini, 1990), writing to learn, outlining and mapping, and use of the PQ4R method (Slavin, 2009). The use of these instructional approaches has shown positive results among students with special needs in general education classrooms. Other practices used, based on cognitivism, for students with special needs in inclusive education classrooms are various metacognitive strategies, which are evidence-based such as study skills, concept mapping, and reciprocal teaching (Al-Shammari, 2019B; Hornby, 2014). In line with Hornby, Hattie (2008) also offers specific best practice interventions best used for students with special needs in cognitivism-based inclusive education settings, which include metacognitive strategies. Metacognitive strategies teach students to understand the way they think. Through targeted study skills, concept mapping, and reciprocal teaching, students can plan, organize, and communicate information and learning. Another example of a metacognitive strategy in a cognitivism-based classroom is a flow chart used to organize information. Thus, cognitivism can be related to the key components of the best practices in inclusive education by helping students to assimilate and accommodate information

Constructivism-based Inclusive Education Practices

Theoretically, constructivism focuses on creating cognitive tools that reflect the wisdom of the culture in which they are used as well as the insights and experiences of learning. Constructivism involves a person understanding the importance of the social dimension during the learning process through observation, treatment, interpretation, and adaptation of information on building a cognitive structure. Vygotsky (1962) emphasized the social role of learning because of its impact on cognitive development through learning and interaction between children and their peers, parents, and teachers. Constructivism equates to learning that involves constructing, creating, and inventing, basically for individuals to develop their own knowledge and meaning. Constructivists believe that an understanding of the brain informs teaching (Lenjani, 2016). Akpan and Beard state, "constructivism is the best paradigm for teaching all learners, but particularly students with special educational needs" (2016, p. 393).

Teachers are essentially considered facilitators, providing essential information, and organizing activities for students to discover their own learning (Liu & Ju, 2010). Lenjani (2016) details the main guiding principles of constructivism as: 1) learning is searching for meaning; 2) meaning requires the understanding of the whole as well as the individual parts; 3) teachers should have an understanding of the mental models that learners use to perceive their world and assumptions that they make in order to support their models; and 4) the purpose of learning is that an individual constructs his or her own meaning and does not include simply memorizing information for the correct answers or repeating merely what someone else has stated. The key to constructivism is that learning should include learner-centred, task-based, hands-on and minds-on activities (Shi, 2013) while also being meaningful and closely related to practical and real-life experiences (Lenjani, 2016). In addition, constructivist-based classroom activities should provide internal and external scaffolding strategies for all learners, which is essential for students with special educational needs (Shi, 2013).

Practically, constructivism-based inclusive education practices are the applications of constructivism in inclusive education settings, which would involve instructional methods and strategies to assist learners to explore complex topics actively. Possible strategies for exploring these topics include: situating tasks in real-world contexts and using real-life examples, utilizing cognitive apprenticeships (i.e. modelling and coaching),

presenting multiple perspectives (i.e. collaborative learning to develop and share alternative views), including social negotiations (i.e. debate, discussion), encouraging reflective awareness, and providing considerable guidance on the use of constructive processes (Ertmer & Newby, 2013).

The focus on key ideas and relationships between these tools are stressed as opposed to disconnected pieces of knowledge (Lenjani, 2016). For students with special needs, the most important facts or information related to key ideas under discussion should be prioritized by teachers, thereby not overwhelming them with the need for memorization. Graphic organizers and self-monitoring have been suggested as useful strategies for teaching content subjects encouraging confidence and success, accomplishments and, indeed, errors (Lenjani, 2016).

According to Hulin and Drake, "Inclusive education requires a constructivist approach to teaching and learning" (2011, p. 395). Making this fundamental shift involves an explicit critique of assumptions, practices, and structures associated with a positivist approach. Hulin and Drake also commented that constructivism 'rejects the notion that there are instructional strategies that are effective, regardless of context, including students' backgrounds and interests' but that, '...it acknowledges and respects the wholeness and particularity of learning as situationally constructed'. An example of constructivism-based inclusive education practices is active learning (Steele, 2005). Steele suggested that practices such as "teaching students to summarize, paraphrase, predict, and use visual images, helps students with learning disabilities understand and remember" (2005, p. 2). Some practices such as summarizing, predicting, and using visuals have also been found to have high to medium effects on students with special needs (Hattie, 2008).

By adopting a constructivist perspective Botha and Kourkoutas (2016) traced the support that children with behavioural difficulties receive and the development and implementation of innovative practices that support these children. The authors commented that children with behavioural difficulties might often develop varying degrees of psychological symptoms, including social withdrawal, learning difficulties, lack of motivation, and disengagement from school. Botha and Kourkoutas argue, therefore, for an inclusive model of teaching children with behavioral difficulties in order to address their antisocial behaviours and establish constructive relationships with peers and teachers, since anti-social behaviour also makes them prone to exclusion, isolation or rejection from others within and outside of the school setting. Ineffective teacher training in managing children with behavioural difficulties is reported by Botha and Kourkoutas as a reason why teachers tend to refer students for external support. Additionally, ineffective inclusive education training is reported as a reason teachers lack an understanding of the range of inclusive approaches and the need for effective collaboration with professionals, such as psychologists and counselors. Such collaborations are considered as being a prerequisite for inclusive education, therefore, a community of practice using a constructivist approach 'embraces social engagement in practices that are directly related to the role of schools, families, and communities. It also provides opportunities to enhance the social integration of children, including those with behavioural difficulties in schools. Additionally, it allows for students to co-construct knowledge gained, which includes ways of supporting these children in their immediate contexts in their communities (Botha & Kourkoutas, 2016).

Students in a constructivistic inclusive education setting would benefit most from the following best practices as reported by Hattie (2008) such as peer tutoring and cooperative learning. Through peer tutoring and cooperative learning, students can interact with each other and actively learn in a real-world setting. Cooperative learning groups, for example, may be formal or informal. Formal groups may be organized by student ability or interest, whereas informal groups may be spontaneous within which students are asked to pair and brainstorm on topics. In the constructivistic inclusive classroom, the belief is that students learn from experience and real-life application.

Conclusion

In this paper, the researchers have considered the role of three key theories related to student learning. It is evident that each theory brings a specific focus on strategies for supporting students with special educational

needs, but we would argue that by adopting only one of these theories it is not possible to provide an effective and inclusive education for the diverse range of students in general education classes.

Behaviourism-based inclusive education practices focus on how to provide instruction and on which reinforcers are effective for particular students with special needs in general education classrooms. The most critical factor for students with special needs is the arrangement of stimuli and consequences that will be implemented within the environment. We propose that the application of behavioural approaches is particularly pertinent when supporting learners with social and behavioural difficulties and even more so when these applications co-exist with learning difficulties. Cognitivism-based inclusive education practices are specifically the applications of cognitivism in inclusion settings, which involves the emphasis on mental information processing and interactions to guide student learning. We argue that these are essential as they provide the main guidance and structural processes for teaching that students with special needs require in order to access the regular class curriculum. Constructivism-based inclusive education practices emphasise making learning more meaningful and using real-life experiences. We propose that while this approach alone would be insufficient for providing the support needed for students with special needs to succeed in general classes, its use complements that of the other theories.

We suggest that inclusive education practices will be best served by adopting an eclectic approach to the use of theory-driven curricula and instructional strategies and by using a combination of behaviourism, cognitivism, and constructivism. Decisions need to be based on the needs of the individual child, the task, and the context, rather than adopting a single theoretical approach. What is of key importance is that all teachers must be equipped with a good understanding of the approaches that can be adopted to support students with special educational needs who are included in regular schools and classes. From a review of the research on using these different theoretical perspectives, it is clear that there is no one theory that should be espoused to the exclusion of the others. All theories contribute approaches that are useful to the inclusion of students with special needs, and by embracing a range of best practices from each of these to meet a child's individual needs, inclusive education can best meet the needs of all children.

Disclosure Statement

The authors have no conflicts of interest to declare.

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