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CONSTRUCTIVISM AND BEHAVIORISM METHODOLOGIES ON SPECIAL NEEDS EDUCATION

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Abstract:
The constructivist and behaviorist approaches for educating children with special needs induced plenty of controversy. Many authors suggest that an amalgamation of both methods would conduct to an improved educational process. This research contains a brief debate of approaching pupils with special needs, a summary of key constructivist and behaviorist ideologies and their influence on scholars with special needs and a list of suggestions that could find applicability on classroom.

Keywords: children with special needs, behaviourism, constructivism, special needs education

Introduction

Behaviorism is a learning theory that only focuses on objectively observable behaviors and discounts any independent activities of the mind. Behavior theorists define learning as nothing more than the acquisition of new behavior based on environmental conditions.

Experiments by behaviorists identify conditioning as a universal learning process. There are two different types of conditioning, each yielding a different behavioral pattern:

1. Classic conditioning occurs when a natural reflex responds to a stimulus. We are biologically "wired" so that a certain stimulus will produce a specific response. One of the more common examples of classical conditioning in the educational environment is in situations where students exhibit irrational fears and anxieties like fear of failure, fear of public speaking and general school phobia.

2. Behavioral or operant conditioning occurs when a response to a stimulus is reinforced. Operant conditioning is a simple feedback system: If a reward or reinforcement follows the response to a stimulus, then the response becomes more probable in the future. For example, leading behaviorist B.F. Skinner used reinforcement techniques to teach pigeons to dance and bowl a ball in a mini-alley.

There have been many criticisms of behaviorism, including the following:

- Behaviorism does not account for all kinds of learning, since it disregards the activities of the mind.
- Behaviorism does not explain some learning–such as the recognition of new language patterns by young children–for which there is no reinforcement mechanism.
- Research has shown that animals adapt their reinforced patterns to new information. For instance, a rat can shift its behavior to respond to changes in the layout of a maze it had previously mastered through reinforcements.

This theory is relatively simple to understand because it relies only on observable behavior and describes several universal laws of behavior. Its positive and negative reinforcement techniques can be very effective – such as in treatments for human disorders including autism, anxiety disorders and antisocial behavior. Behaviorism is often used by teachers who reward or punish student behaviors.

Behaviorism is often seen in contrast to constructivism. Constructivists are more likely to allow for experimentation and exploration in the classroom and place a greater emphasis on the experience of the learner. In contrast to behaviorists, they feel that an understanding of the brain informs teaching.

Constructivism is a philosophy of learning founded on the premise that, by reflecting on our experiences, we construct our own understanding of the world we live in. Each of us generates our own "rules" and "mental models," which we use to make sense of our experiences. Learning, therefore, is simply the process of adjusting our mental models to accommodate new experiences.

There are several guiding principles of constructivism:

1. Learning is a search for meaning. Therefore, learning must start with the issues around which students are actively trying to construct meaning.
2. Meaning requires understanding wholes as well as parts. And parts must be understood in the context of wholes. Therefore, the learning process focuses on primary concepts, not isolated facts.
3. In order to teach well, we must understand the mental models that students use to perceive the world and the assumptions they make to support those models.

4. The purpose of learning is for an individual to construct his or her own meaning, not just memorize the "right" answers and regurgitate someone else's meaning. Since education is inherently interdisciplinary, the only valuable way to measure learning is to make the assessment part of the learning process, ensuring it provides students with information on the quality of their learning.

Curriculum–Constructivism calls for the elimination of a standardized curriculum. Instead, it promotes using curricula customized to the students' prior knowledge. Also, it emphasizes hands-on problem solving.

Instruction–Under the theory of constructivism, educators focus on making connections between facts and fostering new understanding in students. Instructors tailor their teaching strategies to student responses and encourage students to analyze, interpret, and predict information. Teachers also rely heavily on open-ended questions and promote extensive dialogue among students.

Assessment–Constructivism calls for the elimination of grades and standardized testing. Instead, assessment becomes part of the learning process so that students play a larger role in judging their own progress.

There is a major debate in the field of education and in particular special education concerning two different theories and related approaches to teaching: constructivism and behaviorism.

Evidence of this controversy can be seen in university settings, public schools, and journal articles. It is typical in the education field to challenge a position, dismiss it, and then embrace a new trend as if there were no valid ideas represented in the original position. Frequently effective strategies incorporate ideas from different theoretical perspectives; therefore, the author recommends taking some useful ideas from each theory for practice in the classroom. Furthermore, for students with special needs, it is more effective to make curricular and instructional decisions based on the individual child, the task, and the setting than to use strategies representing one theory exclusively.

In fact integrating components from both approaches could help special and general education teachers work more effectively as a team to teach children with special needs. This article highlights the definition and characteristics of special needs education, briefly reviews constructivist and behaviorist principles, and discusses the impact on students with special needs. Constructivist Theory and Practice Instruction based on constructivist theory is currently supported for general education classes by university faculty and many educational organizations (Brooks & Brooks, 1999).

One of the key ideas associated with constructivist theory is that learning should be meaningful and related to real life situations (Grobecker, 1999). For example, instead

of repeatedly having children work word problems to learn how to make change for a dollar, constructivist theory suggests it is better to give children real money to use at a classroom or school store for practice. In social studies, students could role play lawyers, judge, and jury for a simulated court case or conduct an election for classroom leaders instead of memorizing the related procedures and policies. With the realistic examples built in to the instruction, the students have specific practice with generalization.

Teachers following a constructivist perspective base their instruction on what the students already know as a foundation (Duhaney & Duhaney, 2000). Therefore, to introduce new concepts, teachers need to discuss first some related ideas that are already familiar to the students. This practice helps students with special needs because of their low self-esteem and repeated failure experiences. If they have the chance to start with something familiar, new learning does not seem so overwhelming and frustrating to them. Ellis recommends techniques such as mapping and brainstorming (1997). For example, teachers could introduce a science lesson on tides and ask student to brainstorm all the facts they already know; they could have students make a map, web, or other visual to include ideas from the class. Later, the students can research further information and make any necessary revisions. In a primary level economics lesson, teachers could model construction of a flow chart of producers and consumers to show how economics works.

Another principle underlying the constructivist approach is a focus on key ideas and the relationships of these ideas within the subject areas (Grobecker, 1999) and across subject areas (Ellis, 1997). Applying this principle, teachers stress connections of important concepts that are the major ideas for the discipline rather than isolated bits of knowledge. In mathematics, for example, teachers might emphasize fractions and their relationship to decimals, percents, and proportions. In social studies, themes such as conflict and diversity might be used to teach units on warfare, exploration, and government at many different grade levels. In science, cause and effect might provide the underlying theme for many topics. Ellis suggests that for students with special needs, teachers need to prioritize and to teach the most important facts related to key ideas so students are not overwhelmed with memorizing since many students with special needs have significant memory deficits. Geometric theorems and postulates about parallel lines could be broken down and taught one or two at a time to be sure they are clear and retained for later use. In addition, teachers could focus on strategies and patterns that are useful for many content subjects such as the use of graphic organizers and self-monitoring. When students learn to keep track of their own

progress, errors, and accomplishments, they will gain feelings of confidence and success.

Active learning is an important facet of a constructivist approach to instruction. When students are actively involved in the lesson, they learn and retain the information (Duhaney & Duhaney, 2000; Harris & Graham, 1996). Many of the discovery lessons in social studies, inquiry approaches in science, and whole language strategies in language arts incorporate a high level of student involvement. Chemistry and physics experiments are useful for motivating students with special needs. For example, experiments with plants, color, batteries, and other science concepts, even in the elementary classroom, can provide high interest for science topics and ideas. Social studies projects involving maps and posters, such as planning trips and routes, also provide motivation for students. In the language arts areas, the use of literature related to themes being studied keeps students focused on topics of interest. Fiction books on current issues such as euthanasia, stem cell research, or other controversial topics can be used to integrate language arts, science, and social studies lessons. Teaching students to summarize, paraphrase, predict, and use visual images, which all involve active learning, helps students with special needs understand and remember. Role play, art, and group projects are also useful for clarifying and reinforcing instruction (Ellis, 1997). Such strategies are useful in motivating students with special needs, who tend to me more passive learners because of their history of failure (Lerner, 2003).

High level thinking skills, such as problem solving and analysis, are often thought to be too abstract and difficult for students with learning problems, even though they are an important part of a constructivist curriculum. However, with some additional guidance and preparation, it is possible and in fact beneficial to emphasize these skills with such students (Ellis, 1997; Grobecker, 1999). Teachers can guide students with special needs to engage in complex writing process assignments, research projects, and other test-taking and study activities.

Behaviorist Theory and Practice

The application of behaviorist theory to the classroom has generally been referred to as explicit or direct instruction. Although these approaches have been criticized for use in the general education setting, they have shown promising research results, particularly for children with learning problems (Mercer, 1997). Therefore, it is worth considering the positive aspects of the behaviorally oriented approaches so that they can be combined with some of the ideas that are more popular in the general education setting.

One strategy associated with structured approaches to teaching involves breaking down the tasks into small, manageable segments for teaching (Grobecker, 1999). Before conducting a science lesson on sound, the teacher could simplify a complex science task by introducing and teaching only one step of the scientific method, for example statement of the problem, so that the procedures and purposes are clear prior to going over all of the steps involved. This is particularly useful for students with special needs as they become easily frustrated and overwhelmed when material appears too complex initially and they often give up before even starting a task (Lerner, 2003).

Modeling is another important component of explicit instructional techniques (Olson & Platt, 2000). In the writing process, for example, it is important for a teacher to explain and demonstrate each stage. It is generally not sufficient to name and give some examples of pre-writing strategies or proofreading; the teacher might actually demonstrate for the whole class and perhaps individually exactly how each step is accomplished.

In most explicit instruction, there is a great deal of practice and review of new learning until mastery occurs (Grobecker, 1999). Whether it is multiplication facts, geography terms involving landforms, or vocabulary related to a biology lesson on parts of the brain; direct instructional lessons provide extensive drill and practice time (Olson and Platt, 2000). The students with special needs benefit from such over learning because of their memory problems and difficulty processing information.

Explicit teaching also involves a great deal of structure and systematic planning (Olson & Platt, 2000). Because of the processing, attention, and memory problems of many students with special needs, this emphasis on teacher directed and controlled lessons is beneficial (Lerner, 2003). Students tend to achieve when they know what to expect; in other words, lessons are predictable. They are then able to focus attention on the new material being taught rather than the unique and perhaps confusing features of a lesson.

Another example of a direct instruction strategy appropriate for students with special needs is the use of fast paced lessons with monitoring and feedback. These students can learn to progress if the lesson includes a chance for monitoring by teacher and students, provisions of feedback, and some type of reinforcement. These elements of the lesson have been shown to be effective with children especially those with disabilities. For example during a literature lesson, students might be asked to write an essay analyzing the themes of a story. Rather than completing the entire assignment, students benefit from the teacher's feedback at each step. First they might check to see if the theme they selected is relevant. Then they might describe examples of the theme

and be sure they are related events. All of the major content of their essays, in fact, could be checked and revised before even working on a draft. This procedure builds confidence and develops strategies to ensure skill development and a higher quality finished product.

Conclusion

Students with special needs are challenging to teach successfully in the inclusion setting because of the processing and academic deficits. However, if teachers are familiar with patterns of strengths and weaknesses and aware of several principles for good practice, most students with special needs have a good chance for success. Instructional decisions should be made based on the child's learning characteristics, the task, and the content rather than teaching from a pre-determined philosophy. The best teaching will often integrate ideas from constructivist and behaviorist principles. A few examples of relevant recommendations discussed in this paper are in the list that follows this narrative. Although it is often easier to teach with one method overall, instruction is most effective if special education and general education teachers are familiar with several options and collaborate to make decisions for each lesson. In addition, these ideas are beneficial for several subjects, grade levels, and students with and without disabilities. They are generally easy to implement without changing an entire lesson.

Summary of Key Ideas for Teaching Students with special needs in the General Education Classroom:

Ideas Based on Constructivist Theory:

- Relate lessons to real life situations to make the ideas more meaningful
- Start lessons with information and examples that are familiar to the students (from their own experiences)
- Focus on a few key ideas in each lesson that underlie several topics and subject areas
- Design activities in which students are actively involved in the lesson
- Integrate high level thinking skills, and provide clear explanations and guidance to clarify

Ideas Based on Behavioral Theory:

- Break down tasks into small segments
- Model, demonstrate, and explain each step in a procedure or new task
- Include as much extra practice and review as needed for mastery to occur
- Incorporate structure and predictable routine into lessons

- Use monitoring and feedback as lesson progresses rather than waiting until conclusion

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