Edu-Psychology: An Insight into Effective Learning

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Abstract

Education and psychology are interdependent. While the purpose of education has always been imparting knowledge, Psychology has, all through, played a vital role in changing the spirit of it. It has changed the old concept where only upper class had the ability and right to learn, thereby giving education the theory of individual differences that every child has different mental ability and learns with different pace. Educational psychology has thus formed the basis of education today. It has affected education in every field of teaching and learning process. For years, educators have written about the purposes, aims, and goals of educational psychology and have stressed the relevance of the field for the practice of the same. However, educational psychologists seem to be having more and more trouble explaining to educators what they do and why educators should care. This paper, therefore, explores the relevance of educational psychology, noting how it contributes to the preparation of both intelligent quotient as well as the emotional quotient of an individual.

Introduction

Educational psychology is the branch of psychology concerned with the scientific study of human learning. The study of learning processes, from both cognitive and behavioral perspectives, allows researchers to understand individual differences in intelligence, cognitive development, affect, motivation, self-regulation and self-concept, as well as their role in learning. The field of educational psychology relies heavily on quantitative methods, including testing and measurement, to enhance educational activities related to instructional design, classroom management, and assessment, which serve to facilitate learning processes in various educational settings across the lifespan.

Educational Psychology is informed primarily by neuroscience and psychology, bearing a relationship to that discipline analogous to the relationship between medicine and biology. It both draws from and contributes to cognitive science and the learning sciences. It involves the study of memory, conceptual processes, and individual differences (via cognitive psychology) in conceptualizing new strategies for learning processes in humans. Educational psychology has been built upon theories of operant conditioning, functionalism, structuralism, constructivism, humanistic psychology, Gestalt psychology, and information processing, and as the paper unleashes itself, we'll come across all the factors that proves Educational Psychology to be the base of effective learning.

History

Educational psychology is a fairly new and growing field of study. Although it can date back as early as the days of Plato and Aristotle, it was not considered a specific practice. Both Plato and Aristotle researched individual differences in the field of education like the training of the body and the cultivation of psycho-motor skills, the formation of good character and also the possibilities and limits of moral education. While Plato saw knowledge acquisition as an innate ability, which evolves through experience and understanding of the world,

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Aristotle observed the phenomenon of "association." Aristotle's four laws of association included succession, contiguity, similarity, and contrast and his studies examined recall and facilitated learning processes. Plato's concept of human cognition, on the other hand, has evolved into a continuing argument of nature vs. nurture in understanding conditioning and learning today.

The period of 1890–1920 is considered the golden era of educational psychology where aspirations of the new discipline rested on the application of the scientific methods of observation and experimentation to educational problems. From 1840 to 1920, 37 million people immigrated to the United States. This created an expansion of elementary schools and secondary schools. The increase in immigration also provided educational psychologists the opportunity to use intelligence testing to screen immigrants at Ellis Island. Darwinism influenced the beliefs of the prominent educational psychologists. Even in the earliest years of the discipline, educational psychologists recognized the limitations of this new approach. There were, however, three major figures in educational psychology in this period - William James, G. Stanley Hall, and John Dewey. All of them distinguished themselves in general psychology and educational psychology, which overlapped significantly at the end of the nineteenth century. The pioneering American psychologist William James (1842–1910) observed that: "Psychology is a science, and teaching is an art; and sciences never generate arts directly out of themselves. An intermediate inventive mind must make that application, by using its originality" (James W., 1989).

John Dewey (1859–1952), on the other hand, had a major influence on the development of progressive education in the United States. He believed that the classroom should prepare children to be good citizens and facilitate creative intelligence. He pushed for the creation of practical classes that could be applied outside of a school setting. He also proposed that education should be student-oriented, not subject-oriented. For Dewey, education was a social experience that helped bring together generations of people. He stated that students learn by doing. He believed in an active mind that was able to be educated through observation, problem solving and enquiry. He also stated that material should be relative to the student's own experience, "The material furnished

by way of information should be relevant to a question that is vital in the students own experience."(Dewey J., 1910).

However, from 1920 to 1960, the number of people receiving a high school and college education increased drastically. As very few jobs were available to teens coming out of eighth grade, there was an increase in high school attendance in the 1930s. The progressive movement in the United States took off at this time and led to the idea of progressive education. John Flanagan, an educational psychologist, developed tests for combat trainees and instructions in combat training. In 1954 the work of Kenneth Clark and his wife on the effects of segregation on black and white children greatly influenced the Brown v. Board of Education case in the Supreme Court. From the 1960s to present day, educational psychology thus has switched from a behaviorist perspective to a more cognitive based perspective because of the influence and development of cognitive psychology at this time.

Major Perspectives

Behavioral:

Applied behaviour analysis, a research-based science utilizing behavioural principles of operant conditioning, is effective in a range of educational settings. For example, teachers can alter student behaviour by systematically rewarding students who follow classroom rules with praise, stars, or tokens exchangeable for sundry items. Despite the demonstrated efficacy of awards in changing behaviour, their use in education has been criticized by proponents of self-determination theory, who claim that praise and other rewards undermine intrinsic motivation. There is evidence that tangible rewards decrease intrinsic motivation in specific situations, such as when the student already has a high level of intrinsic motivation to perform the goal behaviour. But the results showing detrimental effects are counterbalanced by evidence that, in other situations, such as when rewards are given for attaining a gradually increasing standard of performance, rewards enhance intrinsic motivation.

Cognitive:

Among current educational psychologists, the cognitive perspective is more widely held than the behavioral perspective, perhaps because it admits causally related mental constructs such as traits, beliefs, memories, motivations and emotions. Cognitive theories claim that memory structures determine how information is perceived, processed, stored, retrieved and forgotten. The spaced learning effect, a cognitive phenomenon strongly supported by psychological research, has broad applicability within education. For example, students have been found to perform better on a test of knowledge about a text passage when a second reading of the passage is delayed rather than immediate. Educational psychology research has confirmed the applicability to education of other findings from cognitive psychology, such as the benefits of using mnemonics for immediate and delayed retention of information.

Problem solving, according to prominent cognitive psychologists, is fundamental to learning. It resides as an important research topic in educational psychology. A student is thought to interpret a problem by assigning it to a schema retrieved from long-term memory. A problem that students run into while reading is called "activation." This is when the student's representations of the text are present during working memory. This causes the student to read through the material without absorbing the information and being able to retain it.

Cognitive view of intelligence

Each person has an individual profile of characteristics, abilities and challenges that result from predisposition, learning and development. These manifest as individual differences in intelligence, creativity, cognitive style, motivation and the capacity to process information, communicate, and relate to others. The most prevalent disabilities found among school age children are attention deficit hyperactivity disorder (ADHD), learning disability, dyslexia, and speech disorder. Less common disabilities include intellectual disability, hearing impairment, cerebral palsy, epilepsy, and blindness .

Developmental:

Developmental psychology, and especially the psychology of cognitive development, opens a special perspective for educational psychology. This is so, because education and the psychology of cognitive development converge on a number of crucial assumptions.

First, the psychology of cognitive development defines human cognitive competence at successive phases of development. Education aims to help students acquire knowledge and develop skills which are compatible with their understanding and problem-solving capabilities at different ages. Thus, knowing the students' level on a developmental sequence provides information on the kind and level of knowledge they can assimilate, which, in turn, can be used as a frame for organizing the subject matter to be taught at different school grades.

Second, the psychology of cognitive development involves understanding how cognitive change takes place and recognizing the factors and processes which enable cognitive competence to develop. Education also capitalizes on cognitive change, because the construction of knowledge presupposes effective teaching methods that would move the student from a lower to a higher level of understanding.

Finally, the psychology of cognitive development is concerned with individual differences in the organization of cognitive processes and abilities, in their rate of change, and in their mechanisms of change. The principles underlying intra- and inter-individual differences could be educationally useful, because knowing how students differ in regard to the various dimensions of cognitive development, such as processing and representational capacity, self-understanding and self-regulation, and the various domains of understanding, such as mathematical, scientific, or verbal abilities, would enable the teacher to cater to the needs of the different students so that no one is left behind.

Constructivist:

Constructivism is a category of learning theory in which emphasis is placed on the agency and prior 'knowing' and experience of the learner, and often on the social and cultural determinants of the learning process.

Educational psychologists distinguish individual (or psychological) constructivism, identified with Piaget's theory of cognitive development, from social constructivism. The social constructivist paradigm views the context in which the learning occurs as central to the learning itself. It regards learning as a process of enculturation. People learn by exposure to the culture of practitioners. They observe and practice the behaviour of practitioners and 'pick up relevant jargon, imitate behaviour, and gradually start to act in accordance with the norms of the practice'. So, a student learns to become a mathematician through exposure to mathematician using tools to solve mathematical problems. In order to master a particular domain of knowledge it is not enough for students to be learn the concepts of the domain. They should be exposed to the use of the concepts in authentic activities by the practitioners of the domain.

Motivation

Motivation is an internal state that activates, guides and sustains behavior. Motivation can have several impacting effects on how students learn and how they behave towards subject matter:

- Provide direction towards goals.

- Enhance cognitive processing abilities and performance.

- Direct behaviour toward particular goals.

- Lead to increased effort and energy.

- Increase initiation of persistence in activities.

Educational psychology research on motivation is concerned with the volition or will that students bring to a task, their level of interest and intrinsic motivation, the personally held goals that guide their behaviour, and their belief about the causes of their success or failure. A form of attribution theory developed by Bernard Weiner describes how students' beliefs about the causes of academic success or failure affect their emotions and motivations. For example, when students attribute failure to lack of ability, and ability is perceived as uncontrollable, they

experience the emotions of shame and embarrassment and consequently decrease effort and show poorer performance. In contrast, when students attribute failure to lack of effort, and effort is perceived as controllable, they experience the emotion of guilt and consequently increase effort and show improved performance.

Motivational theories also explain how learners' goals affect the way they engage with academic tasks. Those who have *mastery goals* strive to increase their ability and knowledge. Those who have *performance approach goals* strive for high grades and seek opportunities to demonstrate their abilities. Those who have *performance avoidance* goals are driven by fear of failure and avoid situations where their abilities are exposed. Research has found that mastery goals are associated with many positive outcomes such as persistence in the face of failure, preference for challenging tasks, creativity and intrinsic motivation. Performance avoidance goals are associated with negative outcomes such as poor concentration while studying, disorganized studying, less self-regulation, shallow information processing and test anxiety. Performance approach goals are associated with positive outcomes, and some negative outcomes such as an unwillingness to seek help and shallow information processing.

Technology

Instructional design, the systematic design of materials, activities and interactive environments for learning is broadly informed by educational psychology theories and research. For example, in defining learning goals or objectives, instructional designers often use a taxonomy of educational objectives created by Benjamin Bloom and colleagues.

The following list of technological resources incorporate computer-aided instruction and intelligence for educational psychologists and their students:

- Intelligent tutoring system

- Cognitive tutor

- Cooperative learning

- [Collaborative learning](#)

- [Problem-based learning](#)

- [Computer-supported collaborative learning](#)

- [Constructive alignment](#)

Technology is essential to the field of educational psychology, not only for the psychologist themselves as far as testing, organization, and resources, but also for students.

Importance of Educational Psychology

Educational psychology is important for several reasons:

1. Educational psychology is applied in order to understand the aspects and components that are involved in the life of the learner.

2. Psychology in Education is important because it lays down the proper foundation and principles of education.

3. Education psychology is mainly important to understand the mind of the children that in what ways he/she can develop their learning and education skills effectively.

4. It creates a great bond between students and teacher and hence encourages the student to behave in a mannerly way with their teachers and elders.

5. Psychology in Education is also important for the child because it makes them problem-solving not problem creating.

Discussion

Educational psychology, as the name suggests, talks about two integral parts of human lives - education and psychology. Education is a necessary compulsion. It gives perspectives, tastes and a particular way to look at

things, that is solely unique. It gives the required knowledge to comprehend dilemmas and mold them into breaking solutions, art and creativity. However, what makes one different from another, is psychology -- the works of mind and brain that is distinct in its own way. Educational psychology works towards drawing the outline of how a being perceives knowledge, thereby building a customized foundation towards achieving the wholesome growth of cognition. It peeks into a child's insight to understand, why or why not a particular concept intrigues him. It subtly weaves the idea of socio-economic milieu, a rather important aspect, and works towards a goal that sinks with the same.

The above paper sails through the basic spikes of Educational Psychology, with the attempt to hone the holistic development of a child's learning. It elaborates on the techniques used in Educational Psychology and the major perspective it covers to eventually get accustomed to a child's glass of vision.

Educational Psychology is the core of tomorrow's upbringing. It is one of the pillars to help a candidate survive through the tremors of competitions. This paper throws light to the immediate necessity to adorn this topic in the field of education, and anticipates a better tomorrow with bright minds and brilliant thoughts.

Conclusion

With the generations blooming in the present world of desired perfection, the modes of education have changed. It is no more about bookish knowledge, or about the tons of words that one's brain can intake. It is about being presentable, graceful and dictating the right body language with the right communication skill. The main priority is knowledge, sure, but without the complete growth in body language, the prior would never be acknowledged.

Educational Psychology guarantees the same. It reads the personality of a child, corrects the loopholes and thereby injects learning, based on his insight. It maximizes the layers of perspectives and paints a beautiful process of preparing the brain in the way it is comfortable. Education no more feels like a burden, rather soothes the mind with a wave of integrated passion and a yearn to learn more.

Educators have debated and re-debated for years, as to how students must be made to learn in the simplest of ways. Educational Psychology is the answer to this. It studies minds and builds distinct foundations for individual candidates. It helps them bloom in the best possible way and face the world with renewed confidence. With the world upgrading itself to new notches each day, we anticipate the proper use of Educational Psychology in the area of learning, hoping it develops individuals for a better tomorrow.

References

Dewey J. (1910). How we think. New York D.C. Heath & Co.

Hergenhahn, B.R. (2009). An introduction to the history of psychology. Belmont, CA: Wadsworth.

Horlacher, Rebekka (2011). Schooling as a means of popular education: Pestalozzi's method as a popular education experiment. "Paedagogica Historica": 47, 65-75.

James, W. (1983). Talks to teachers on psychology and to students on some of life's ideals.

Cambridge, MA: Harvard University Press. (Original work published 1899)

McGoey, K.E. & DuPaul, G.J. (2000) Token reinforcement and response cost procedures: Reducing the disruptive behavior of preschool children with attention-deficit/hyperactivity disorder. School Psychology Quarterly, 15, 330–43.

Seifert, Kelvin & Sutton, Rosemary. Educational Psychology: Second Edition. Global Text Project, 2009, pp. 33–37.

Toomas Lott (2011), Plato on the Rationality of Belief, Trames.

Vives, J, & Watson, F. (1913). On education : a translation of the de tradendis disciplinis of juan luis vives . Cambridge : The University Press.

Zimmerman, B.J. & Schunk, D.H. (Eds.) (2003). Educational psychology: A century of contributions. Mahwah, NJ, US: Erlbaum.