**BECKY WANJIKU WANYOIKE**

**UD78020CO87231**

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**What is discovery learning**

**How does** **discovery learning relate to education psychology**

**ATLANTIC INTERNATIONAL UNIVERSITY**

**WHAT IS DISCOVERY LEARNING**

The term discovery learning, according to Borthick & Jones (2000) is learning that participants learn to identify problems, characterize a solution, search for relevant information, develop a solution strategy, and chosen strategy. In discovery learning, participants, involved in a community of practice, solve problems together. He was supported by Van Joolingen (1999) who established that, “Discovery learning is a type of learning where learners construct their own knowledge by experimenting with a domain and inferring rules from the results of these experiments.”

Therefore, the term discovery learning can be established as learning that is learner based. This means the learners are presented with opportunity to ask questions and provided answers on their own. Discovery learning utilizes the learner as the one forming a question and finding the answer. This involves establishment of a hypothesis and development of a critical analysis based on the learner rather than the teacher. With this type of learning the learners are equipped with problem solving skills and ability to create self-reliance.

**How does** **discovery learning relate with education psychology**

Education psychology is the study of how people learn. The role of education psychology is to associate the instructional and teaching role on how they affect the learner. By observing how we learn it is necessary to establish the way instructional and teaching techniques affect the learners. According to Cherry K., (2022), in education psychology researchers consider different perspectives when observing a problem. These perspectives focus on specific factors that influence learning, including learned behaviors, cognition, and experiences. Looking at the aspects of educational psychology it establishes a pattern of discovery learning. This is because both areas are highly established on the role of self-analysis and problem solving.

**Therefore, how is** **discovery learning related to education psychology?**

According to educationists [Jean Piaget](https://psychology.fandom.com/wiki/Jean_Piaget), [Jerome Bruner](https://psychology.fandom.com/wiki/Jerome_Bruner), and [Seymour Papert](https://psychology.fandom.com/wiki/Seymour_Papert) established that Discovery Learning is a method of [inquiry-based instruction](https://psychology.fandom.com/wiki/Inquiry-based_instruction) and is considered an [constructivist](https://psychology.fandom.com/wiki/Constructivism_(learning_theory)) approach to education. Although this method of instruction is accepted, there is great debate on its efficacy (Mayer, 2004). Discovery learning takes place in solution-based situations where the learner draws on personal experience and existing knowledge and is an instruction system through which students interact with their community by manipulating and exploring objects, struggling with questions and controversies, or experiments. This establishes a relative relationship between education psychology and discovery learning. Both educational psychology and discovery promote self-reliant learning and the growth of problem solving among learners.

One of the main areas where discovery learning is considered controversial is in special needs learning. Over the years there has been a push for special needs students to be integrated with general education curriculum, researchers have questioned if general education classes rooted in discovery-based learning can provide an adequate learning environment for special needs students. Kauffman relayed concerns over the use of discovery based as opposed to direct instruction. Kauffman asserts that “there is no benefit for keeping students guessing about what they are supposed to learn. In majority of the education programs students can be demonstrate be high success in learning the facts and skills they need; these skills and facts are taught directly rather than indirectly. This makes the learner a participant in the teacher-controlled classroom (Kauffman, 2002). Although discovery learning can help learners develop a sense of independence, learners with special need often need greater support. According to Fuchs *et al* (2008), developing learners benefit from the general education program, which relies on a constructivist, inductive instructional style in some areas. Students with serious mathematics deficits, don’t often gain from the programs in a manner that produces understanding of the operational requirements of mathematics. Effective involvement for students with a math disability requires an explicit form of instruction.

The role of education psychology establishes that the learner manner of learning is an integral part of instruction. Therefore, when the use of discovery learning hinders one group it is expected that an alternative is integrated into learning. This therefore means that discovery learning can only be utilized with support of other instructional models. For instance, Tuovinen & Sweller, 1999) insinuate that groups of educators have established that pure discovery learning is a less effective as an instructional strategy for novices, than more direct forms of instruction (e.g.). While discovery learning is very popular, it is often utilized inappropriately (Kirschner et al, 2006).

Research into instructional methods have established many things. As we assess how people learn the methods in which learning in takes place plays a major role. research into instructional methods have established many things. As we assess how people gain knowledge, the methods in which learning in takes place plays a major role. This allows educational psychologists to establish the efficiency of a method. Although discovery learning helps establishes self-reliance among learners, it is also considered as weak due to its inability to support all types of learners. This though process has been refuted by a group of research. Although discovery learning outline that “People can "learn by doing." (Kirschner, Sweller, & Clark, 2006) insinuates that the instructional community questions the effectiveness of this model of instruction. Bruner (1961) suggested that students are more likely to remember concepts if they discover them on their own as opposed to ideas taught directly. However, Kirschner, Sweller, and Clark (2006), establish that there is adequate evidence to support discovery learning. Kirschner *et al* (2006), suggest that decades of empirical data oppose those using these methods of instruction. This argument therefore outlines that not all methods of instruction are perfect but can be effectively utilized in combination with each other.

Looking into instructional strategies and educational psychology one factor is common. The need to establish the best learning strategy for the learners. It is therefore necessary to outline that no method is perfect but learning still has to take pale. This means that the use of discovery learning can be utilized in some areas of study while other will work better in other areas. This therefore establishes the role of educational psychology. Research into instructional strategies is deeply rooted in educational psychology and therefore create a correlation between strategies of teaching and the manner in which knowledge is gained. Therefore, it is my opinion that discovery learning, and education psychology are related in who strategies are implemented in teaching and understanding.

**References**

1. Borthick, A.F., & Jones, D.R. (2000). The Motivation for Collaborative Discovery Learning Online and Its Application in an Information Systems Assurance Course. *Issues in Accounting Education, 15*, 181-210.
2. Bruner JS. The act of discovery. *Hard Educ Rev* 1961, **31**: 21– 32. [Web of Science®](https://wires.onlinelibrary.wiley.com/servlet/linkout?suffix=null&dbid=128&doi=10.1002%2Fwcs.1199&key=A1961CKS1200002)[Google Scholar](http://scholar.google.com/scholar_lookup?hl=en&volume=31&publication_year=1961&pages=21-32.&journal=Hard+Educ+Rev&author=JS.+Bruner&title=The+act+of+discovery.)
3. Fuchs, L. S., Fuchs, D., Powell, S. R., Seethaler, P. M., Cirino, P. T., & Fletcher, J. M. (2008). Intensive intervention for students with mathematics disabilities: Seven principles of effective practice. *Learning Disability Quarterly* **31** (2): 79-92.
4. Kauffman, J. M. (2002). *Education Deform*, Lanham, MD: Scarecrow Press.
5. Kirschner, P. A., Sweller, J., and Clark, R. E. (2006). Why minimal guidance during instruction does not work: an analysis of the failure of constructivist, discovery, problem-based, experiential, and inquiry-based teaching. *Educational Psychologist* **41** (2): 75–86.
6. Mayer, R. (2004). Should there be a three-strikes rule against pure discovery learning? The case for guided methods of instruction. *American Psychologist* **59** (1): 14–19.
7. McLeod, S. A. (2019, July 11). *Bruner - learning theory in education*. Simply Psychology. [www.simplypsychology.org/bruner.html](http://www.simplypsychology.org/bruner.html)
8. McCarthy, C.B. (2005). Effects of thematic-based, hands-on science teaching versus a textbook approach for students with disabilities. *Journal of Research in Science Teaching,* **42** (3): 245-263.
9. Van Joolingen, W. (1999). Cognitive tools for discovery learning. *International Journal of Artificial Intelligence in Education*, *10*(3), 385-397.