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ROLE OF PSYCHOLOGY IN e-LEARNING -TEACHING

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Abstract

The present paper deals with the importance of e-learning practices in school and its psychological effects. It showed that the school of development choice in the experimental group scored less than control group Researchers found that e-learning makes learners to have access on learning processes.

Keywords: E-learning, psychological theory, school development

INTRODUCTION

We know that E-learning is defined as the third learning system in the history of human learning, specify two major E-learning practices in education and corporations, and indicate the importance of psychological studies of E-learning. So we have to point out the interdisciplinary nature of the psychology of learning and summarize the existing literature of the psychology of E-learning in cognitive, social, developmental, and school and counseling psychology, firstly. Secondly, we have to discuss the psychological theory with e-learning and thirdly we have to discuss the views of psychologists with e-learning.

The *psychology of virtual learning* as a field of study that is important, interdisciplinary, emerging, and promising. We believed that prior experience with ICT and *virtual competence* were two influential factors that affected virtual learning and had a *positive influence* on its outcomes. Then the researchers point out the interdisciplinary nature of the psychology of learning and summarize the existing literature of the psychology of virtual learning in *cognitive, social, developmental, and school and counseling psychology*. The researcher tested his hypotheses on a sample of 200 students participating in online courses. His *findings* confirmed the effect of virtual competence and revealed a nuanced mechanism by which experiences with ICT affected virtual learning outcomes.

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THE PSYCHOLOGY OF E-LEARNING

It is essential to encourage psychological factor of an individual (cognitive style, learning modes, and motivation), their processes (creativity, retention and spatial cognition) and mechanisms (split attention effect & dual coding mechanism). These are at the heart of e-learning in order to transform e-learning from "technology-based" to "human - based" process of learning (Mayer, 2001). So, it is important to realize the importance of exploring the psychology of e-learning, such as-

- Remote access to an unlimited array of educational services offered worldwide
- Individualized learning process that takes into consideration the personal level of competence, individual needs, and different learning styles
- Safe and secure learning environment
- Flexible learning in terms of time, location, and pace
- Cost-effectiveness, time-effective, easily scalable… and much more

AS AN INTERDISCIPLINARY FIELD

The psychology of E-learning can be considered an interdisciplinary field of study for-

- *E-learning* is a complex human learning phenomenon that one needs to study its multiple aspects from multiple angles. It is an educational phenomenon that involves cognitive, social, developmental, neurological, and other processes.
- P*sychology* is a complex scientific enterprise that includes more than 50 disciplines such as cognitive psychology, developmental psychology, social psychology, clinical psychology, and neurological psychology (Kazdin, 2002; Smelser & Baltes, 2001).
- Studying psychological factors, processes, and mechanisms of E-learning, one needs to recognize, appreciate, and integrate the exiting research literature across different psychological disciplines.

SCHOOLS OF DEVELOPMENT

When the schools of psychology are concerned, the researcher selects following schools of psychology to judge e-learning-

a. Cognitive Psychology of E-Learning

Cognitive aspect of E-learning is one of the most productive areas of the psychology of E-learning .Two classic theories; the dual-coding theory (Claik & Paivio, 1991; Paivio, 1986) and the cognitive load theory (Chandler & Sweller, 1991, 1992; Sweller & Chandler, 1994) were advanced one decade ago. .

b. Social Psychology of E-Learning

Social process of E-learning is another particularly active area in the psychology of E-learning. The leading researchers in this area include Everett Katz and Ronald Rice at Rutgers University, Robert Kraunt and Sara Kiesler at Carnegie Mellon University, Sheryl Turkle at MIT, Joseph Turow at University of Pennsylvania.

c. Developmental Psychology of E-Learning

From the developmental perspective, this is the third important area of the psychology of E-learning.

d. School and Counseling Psychology of E-Learning

In school settings, the important research area includes the study of cognitive and behavioral interventions through E-learning applications. Horan and his colleagues (Clark, Horan, Tompkins Bjorkman, Kovalski, & Hackett, 2000; Horan, 1996; Kovalski & Horan, 1999), for example, used computer-based or Internet-based intervention programs to foster adolescents' self-esteem and to restructure maladaptive career beliefs. .

LEARNING THEORIES

The learning theories fall under three major types or frameworks which are: behaviorism, Cognitivism and Constructivism schools. The focus of behaviorism is perhaps objective, observable and scientifically measurable aspects of learning. Cognitivism typically deals with a specific form of mental activity which is advanced by computational theory of mind.

a. *Behaviorism*

Behaviorism examines how students behave while learning. It focuses on how learners respond to certain stimuli. In virtual learning behaviorism can be applied through step-by-step video tutorials, game-based activities, regular and constructive feedback, quizzes etc.

b. Cognitivism

Cognitivism focuses on the role of the mind and cognitive processes in learning. It explains how the brain is functioning and the levels of cognitive development that form the foundation of learning. In virtual learning cognitivism can be applied through customizable learning environments, adaptive and personalized learning applications, AI, learning analytics, etc.

c. Constructivism

Leaching and teaching are explained as complex interactive social phenomena between teachers and students. Learning activities focus on experience sharing, teamwork, and collaborative learning. Constructivism generally social finds perfect application in group discussions, brainstorming, problem-based learning, and small group activities with interactive tools like collaborative web-conferencing, an online whiteboard, breakout rooms, screen sharing, etc. So some psychologist considered Constructivism as Social Constructivism.

PSYCHOLOGIST

Educational psychologists make it their life's work to explore the human mind: how it absorbs and assimilates information, and why we are so thirsty for their research and theories are worth being noted, especially for e-Learning professionals who want to create effective online courses that facilitate long-term knowledge retention.

1. Albert Bandura

Bandura is a noted psychologist who has made significant contributions to the field of education for decades.

2. Howard Gardner

Howard Gardner is a developmental psychologist who has penned numerous research papers and books, many of which involve his Multiple Intelligences Theory.

3. Jerome Bruner

Bruner was an American human cognitive psychologist. He suggested that people have "generic coding systems" that allow them to analyze and reflect on data in order to arrive at "fruitful predictions"

4. Jean Piaget

Jean Piaget was a Swiss clinical psychologist who introduced the theory of cognitive development. This pertains to mental models and how children view the world from an educational standpoint.

5. John Dewey

Dewey wore many hats: philosopher, reformer, intellectual, and psychologist are among them. He is one of the founding fathers of functional psychology, and is best known for his work in the fields of school and civil society reform.

6. David Ausubel

Ausubel was a major contributor to the fields of educational psychology and cognitive science. He is best known for his work on "advance organizers," which help to improve knowledge assimilation and retention.

7. Benjamin Bloom

Benjamin Bloom was an educational psychologist who specialized in educational objectives and the Mastery Learning theory. This taxonomy is based on prerequisite knowledge and skills.

8. Robert M. Gagné

Robert Gagné was an educational psychologist who is well-known for the "Conditions of Learning".Hé suggested that there are five primary categories of learning, which include: intellectual skills, cognitive strategies, motor skills, verbal information, and overall attitude.

PSYCHOLOGICAL PRINCIPLES

However, if we'd like to start designing e-Learning courses that are centered on learning behavior right away, then we need to integrate these five psychological principles in our e-Learning courses.

1. To see the real world applications- If learners can't see the real world applications, they won't see the value of the eLearning course.

2. People have an inherent need to learn and experience new things.

3. Positive reinforcement is a powerful tool.

4. Learners gravitate toward collaborative experiences.

5. Learners need to be relating to the information.

RESULTS

Results of descriptive statistics of participants' preference towards School of Development, Learning theories and psychologist scores in pre-test and post-test are shown in Table 1.

Table-1: Result of Descriptive Statistics in each group

INDEX		MEAN		SD	
		PRE-TEST	POST TEST	PRE-TEST	POST TEST
	School of Deve.	12.80	11.20	0.68	0.66
EXP.	Learning Theories	78.75	85.00	2.50	2.00
GRP.	Psychologist	16.00	18.66	0.23	0.12
	School of Deve.	12.65	13.15	0.64	0.66
CONT.	Learning Theories	78.33	79.00	2.47	2.52
GRP	Psychologist	15.45	15.75	0.20	0.24
		N=200			

For investigating the effect of e-learning in post-test on participants' school of development, learning theories and psychologist with regard to the research conditions, Covariance test was used. Calculated ANCOVA are presented for school of development, learning theories and psychologist at 0.01 significant levels.

CONCLUSIONS

Results of this research represented that e-learning in virtual presence has a positive effect in high school students' choice about school of development, learning theories and psychologist. These results were in line with previous findings (Paechter and colleges, 2010; Intel, 2009; Richard, 2004). Results from Table 1 showed that the school of development choice in the experimental group scored less than control group. Also, learning theories and psychologist score in the experimental group scored higher than the control group. Results showed that the school of development score in the control group became higher in post-test. This problem may be due to lack of the facilities which was not available to the control group and that participants in the experimental group had all of them. Researchers found that e-learning makes learners to have access on learning processes. This technology can improve students' academic achievement as well as having reached to a certain standard level of education with no access to schools, then by this technology the deprived students can achieve to educational provisions.

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