ICT ASSISTED CONSTRUCTIVIST TEACHING-LEARNING APPROACH

Pawas Kumar Mandal

Ph.D.- Research Scholar, School of Education, Mahatma Gandhi Antarrashtriya Hindi Vishwavidyalaya, Wardha, Maharashtra ,E-Mail: pawaskumarmandal@gmail.com

Abstract

The overwhelming influence of computer and computing technology in the current perspective has created the need for such a well-educated public, which can effectively use such technology for the prosperity of society and mankind. Therefore, it is understood that these areas of knowledge should be given place in the school curriculum. Information technology (IT) curriculum, which includes the use of information and computer age tools, and the computer science curriculum in which these tools are designed and fabricated, it is necessary to distinguish between these two. Both of them have space in school education. Constructivism is the principle of learning that gives the best force to learn when they actively build their knowledge and understanding. Artistic learning approaches play an important role in developing conceptual understanding and ability in students who help in communicating with learned ideas. These approaches include facilitating the teacher's ability to think independently in the students, creating problem-focused lessons, and sharing the meaning. The theory of constructivism is the basis of such learning approaches. In this article ICT assisted constructivist teaching-learning approaches have been explained.

Keywords: ICT, Constructivism

Introduction

The overwhelming influence of computer and computing technology in the current perspective has created the need for such a well-educated public, which can effectively use such technology for the prosperity of society and mankind. Therefore, it is understood that these areas of knowledge should be given place in the school curriculum. Information technology (IT) curriculum, which includes the use of information and computer age tools, and the computer science curriculum in which these tools are designed and fabricated, it is necessary to distinguish between these two. Both of them have space in school education. Constructivism, relatively a new approach into the field of education and psychology and it is new philosophy also. The constructivist philosophy has been a factor in the creation of the concept of constructivist education. In fact, the way we look at constructivism, perhaps represents a paradigm, which places behaviorism based education towards cognitive-based learning. Constructivism has completely given a new direction to understand how a child learns and develops intellectually. Behaviorism and behaviorist learning are responsible for

giving birth to the traditional system of learning, education, instruction and learning. Through the behavioral system, knowledge or skill is given directly to students' brains through learning or performance. Most of the time students remain passive listeners or mute spectators. Later, the teacher needs to present real facts before him again.

ICT (Information & Communication Technology)

Information and communication technology (ICT) has been developed in the 21st century. Today the progress of science is at its peak. Current era is of information and communication technology (ICT). How much a human brain can think, it is its height. There are computers, e-mails, e-commerce, e-education, mobile and not-so-many systems that have not only made human science easier. However, have paved the way for proper maximum utilization of labor. There has been a miraculous change in the field of education. Today the learner has become a necessity to adopt this technology. In other words, in the course of today's competition, the students who do not adopt this technology or who do not get the atmosphere, they are able to stand behind themselves in this race. Of course, today it is a great necessity that we prepare ourselves physically and mentally. If we have to do something, then we have to walk with Information and Communication Technology (ICT). In today's era, educational technology has transformed them into unprecedented concepts in the field of education by making unprecedented revolutionary changes with modern references. Each side of human life is influenced by it. Whether any part of education is highly crippled, constrained and weak without technology.

Language is a powerful medium of expression. Language is an integral part of human life. Through communication, man communicates information and stores it. For the social, economic, religious or political reasons, different human groups become in touch with each other. In the last century, there has been phenomenal progress in the field of information and communication. Because of electronic media, most of the world has been added. The Information Technology Revolution has opened the doors of knowledge. India is moving towards economic prosperity with the help of information technology from the mix of intelligence and language. E-commerce as an electronic commerce, sending mail through the Internet, is possible by e-mail. Information technology is being developed by online government functioning e-governance, e-banking through e-banking, online e-banking, e-learning etc. through e-learning. Due to the multi-dimensional use of information technology new doors of development are opening up. The field of information technology in India is

growing rapidly. The speed of development has been increased by researching various experiments in this field. In Information Technology, information, statistics and knowledge sharing have spread to every area of human life. Our economic, political, social, cultural, educational, business and many other areas have seen the development of information technology. With the help of electronic and digital devices, continuous experiments are being done in this field. The concept of global village of this period of economic liberalism has succeeded due to communication technology. In this new age electronic media is developing e-commerce, e-medicines, e-education, e-governance, e-banking, e-shopping etc. Information technology has become a symbol of strength and development today. With the advent of information technology in the communication instruments of the computer age, we are entering the information society. Everyone needs knowledge of this maximum contribution of science and technology and using them meaningfully, to benefit from them.

Integration of Information and Communication Technology in Education

The importance of information technology and communication technology for the current academic society is universally visible. Today the structure of knowledge has become a global phenomenon. Modern audio-visual learning materials have become an integral part of the teaching training course. The powerful means of expressing information and communication technology in the modern education world is multimedia and electronic media. Using these tools in education, the teaching learning process is made effective. At present, technical and communication tools are being used in abundance in education. Information technology, modern methods of communication and the whole process of multimedia education is alive. Today, the use of information technology in education is being done at a broader level. Information technology and communication technology has influenced different areas of education, in which computer hardware, software and the Internet are included. The process of designing and developing various information systems and their operations or management is done with the help of Information Technology. Information technology and communication tools have awakened immense possibilities in various fields of human life along with education.

Constructivism

Constructivism is in the form of a philosophy and learning methods, which is against the complete pattern of system propagated by behaviorism. It (constructivism) believes and supports that learners should play an active role in the process of learning and cognitive

development on the basis of their prior experience and with their current interaction with the environment, to build their own knowledge. It is not that a learner can learn only when it is able to self-indulge in the knowledge required to individually or socially, thus it is the main focus of constructivist philosophy. Constructivism is the principle of learning that gives the best force to learn when they actively build their knowledge and understanding.

Constructivist Teaching Approach

Constructivist teaching approaches play an important role in developing conceptual understanding and ability in students who help in communicating with learned ideas. These approaches include facilitating the teacher's ability to think independently in the students, creating problem-based lessons, and sharing the meaning. The theory of constructivism is the basis of such learning approaches.

Constructivism categorized with active learning and encourages the comparison of new ideas with prior knowledge (Piaget, 1954; Piaget, 1970; Piaget, 1973; von Glasersfeld, 1997; Vygotsky, 1978). The constructivism was defined by Slavin (2000) as "the approach of cognitive development that emphasizes the active role of developing their understanding of the realities in the learners." apart from this, "students should participate in classes, it encourages continuous reflection of one's own ideas, as well as in the combination of others' ideas" (Van D Wall, 2001). "The use of physical actions is a component of constructivism that can prevent students from remembering information, and therefore, in order to achieve the underlying meaning, promotes the use of senses (Vygotsky, 1978)." This action promotes control of student's learning position, or independent thinking. Von Glassersfeld (1996) said, "Whatever we know, we only know them because we have made them as a relatively viable sustainable power in our ideological world" (page 19). "To help students in order to develop problem-solving skills, designing class activities, promoting communication and rationalization of ideas are important (Piaget, 1973)." Proper facility of mathematical language, justification of ideas and sharing ideas with others is very important (Ball and Bass, 2000)." In order to learn new ideas, the process of assimilation and accommodation, encourages students to combine their ability in the ways that promote retention of knowledge. When the student uses an external environment to get accommodation for a set of previously learned ideas, then assimilation starts (Piaget, 1954). This type of learning approach can be

seen at the time when students are engaged in the process of learning independently and actively to explore ideas according to their own interests. Piaget (1973) said, "... he will achieve a system that can serve him for the rest of his life, which will stimulate his curiosity without enduring it to end." Therefore, in order to promote internalization, students need to participate in active exploration and discussion so that they can integrate these tasks into the same ideas present in the mind (Piaget, 1973).

Constructivist Learning Approach

Constructivist learning is based on the traditional conception of constructivist philosophy/ ideology and initial knowledge, according to which any learning is based on prior knowledge of the learner. Scholars have given the name of schema to this prior-knowledge. Constructivist scholars suggest that no learning is limited to achieving any knowledge, but learning is influenced only when a student is actively involved in the process of construction of knowledge.

The product of constructivist philosophy is constructivist learning, can be said to be a forward-looking learning in comparison to cognitive learning, in which every aspect is emphasized that the learner himself is constructor of knowledge and this kind of knowledge-related work is independently done alone or in the group, interacting with his environment on the basis of his prior experiences and knowledge, without any assistance to others or with the help of his teachers, parents, peers.

Conclusion

Technology plays an important role in teaching-learning process in the present era. Integration of technology in education given a new direction. Education enriched with the amalgamation of technology. When we use ICT assisted constructivist tools in the process of teaching-learning, then the teaching and learning becomes easier and interesting and it seems that teaching and learning burden less.

References

Agrawal, J.C. (2010). Elements of Educational Technology and Management. Agra: Agrawal Publications

Ball, D. L., & Bass, H. (2000). Making believe: The collective construction of public mathematical knowledge in the elementary classroom. In D. Phillips (Ed.), Yearbook of the National Society for the Study of Education: Constructivism in education (pp. 193-224). Chicago, IL: The University of Chicago Press.

Bhatnagar, A.B. & Bhatnagar, A. (2015). Educational Technology and ICT. Meerut: R. Lall Book Depot.

Goyal, H.K. (2002). *Computer Science Teaching*. Meerut: Surya Publications.

Singh, K.D. & Kaur, D.(2013). *ICT Mediated Education*. New Delhi: Dhanpat Rai Publishing Company.

Piaget, J. (1954). *Construction of reality in the child*. New York: Basic Books, Inc.

Piaget, J. (1970). Piaget's theory. In P. H. Mussen (Ed.), *Carmichael's manual of psychology* (pp. 703-732). New York: Wiley.

Piaget, J. (1973). *To understand is to invent: The future of education*. New York:Grossman.

Singh, S. & Sharma, B.K. (2016). *Education Technology and Computer Assisted Instructions*. Agra: Rakhi Prakashan Pvt. Ltd.

Slavin, R. E. (2000). *Educational psychology: Theory and practice* (6th ed.). Needham Heights, MA: Allyn & Bacon.

Tinio,V.L.(2007). *ICT in Education*. UN Development Programme. Retrieved from http:www.eprmers.org

Van de Walle, J. A. (2001). *Elementary and middle school mathematics: Teaching developmentally* (4th ed.). New York: Longman.

von Glasersfeld, E. (1996). Response: Footnotes to 'The many faces of constructivism'. *Educational Researcher, 25(6)*, 19.

von Glasersfeld, E. (1997). Amplification of a constructivist perspective. *Issues in Education, 3(2)*, 203-211.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.