



THE ACCOMMODATION OF GOALS, BELIEFS AND VALUES OF CONSTRUCTIVISM IN THE TECHNOLOGY-BASE ENGLISH LEARNING AND TEACHING

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ABSTRACT

The advancement of technology has significantly transformed the way we study and teach. By effectively utilizing various learning theories, technology can be applied and integrated in a more proficient manner. The relationship between constructivism and technology is closely intertwined, as the application of one field enhances the progress of the other. According to constructivism, technology encompasses the surroundings and designs that actively engage learners, and learning takes place within these specific contexts. In recent times, there have been endeavours to incorporate technology into the classroom based on the principles of constructivist theory. This research paper aims to explore several key topics, including the definition of constructivism, successful integration of technology in the classroom, factors influencing teachers' use of technology, the role of technology in a constructivist learning environment, and how teachers apply learning theories to facilitate more efficient learning experiences.

Keywords: Accommodation of Goals, Constructivism, Technology, English Learning Teaching

ARTICLE HISTORY

Received 28-07-2024

Revised 16-08-2024

Accepted 30-12-2024

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INTRODUCTION

Constructivism is a learning philosophy based on the idea that through reflecting on our experiences, we create our own comprehension of the world around us. We each develop our individual "rules" and "mental models" to interpret our experiences. Consequently, learning involves adapting our mental models to incorporate new experiences. Constructivism is an epistemological theory that asserts that individuals derive knowledge and significance through the interplay of their experiences and ideas. In infancy, this interplay occurs between experiences and reflexes or behavior patterns, which Jean Piaget referred to as schemas. It is important to note that constructivism is not a specific pedagogy, although it is often mistaken for constructionism, an educational theory developed by Seymour Papert that draws inspiration from constructivist and experiential learning concepts put forth by Jean



Piaget. Piaget's constructivist learning theory has had a profound impact on learning theories and teaching methodologies in the field of education, and it serves as a fundamental principle for numerous education reform movements. Therefore, constructivism is a theory rooted in observation and scientific research on how individuals acquire knowledge.

Computers can now create two- and three-dimensional objects on a screen thanks to constructivism and technology. With the help of this, kids can see the screen and manipulate the forms by moving them to the other side, around, or even stretching, turning, or flipping them. The constructivist paradigm has guided recent attempts to incorporate technology into the classroom. This paper looks at constructivism's definition, successful classroom technology integration, factors that influence teachers' use of technology, the role that technology plays in a constructivist classroom, and how teachers apply learning theories to facilitate more effective instruction.. According to (M. J. Hannafin, and R. J. Hill) Technology encompasses the structures and settings that actively involve students. Both constructivism and technology prioritize the development of educational settings. These settings serve as the backdrop for knowledge-building tools and the facilitation of understanding through the creation and manipulation of artifacts. Within these settings, learners collaborate and assist one another while utilizing a diverse range of tools and learning materials to achieve their learning objectives and engage in problem-solving endeavors (Pourhosein Gilakjani et al., 2013).

Research Question

What are the goals, beliefs and values of constructivism in education?, What are the major components and characteristics of Technology-base English Learning and teaching?, How are the goals, beliefs and values of constructivism in education accommodated in the Technology-base language learning?

LITERATURE REVIEW

Constructivism: Meaning

Constructivism is a framework of beliefs that shape how individuals learn and interpret the world around them. It is centered on the idea that through reflecting on personal experiences, individuals develop their own comprehension of the world they inhabit. Constructivist teaching is rooted in constructivist learning theory, emphasizing that learning takes place when learners actively participate in constructing meaning and knowledge, rather than simply absorbing information.



Learners are viewed as creators of meaning and knowledge in this approach. Constructivist teaching promotes critical thinking skills, encourages motivation, and cultivates independent learners. According to this theoretical perspective, learning is always built upon existing knowledge, referred to as schema. Constructivists argue that learning is most effective when students are actively engaged in the learning process, rather than passively receiving information (Santhoshi & Babu, n.d.).

Implications of Constructivism in Education

To comprehend the epistemological foundations of constructivism and the implications of the theory for classroom practice, we refer to the works of Russian psychologist Lev Vygotsky (1978) and American pragmatist John Dewey (1929). Vygotsky's theory of knowledge acquisition is commonly known as social constructivism. Teaching methods rooted in social constructivism emphasize that knowledge is a product of social negotiation: "Words and ideas do not inherently possess meanings outside of those established and agreed upon by individuals within specific contexts" (Hughes & Sears, 2004, p. 260). Social constructivism rejects the notion that individual cognition is the sole driving force behind knowledge construction, instead advocating for the idea that knowledge is a cultural or negotiated creation that emerges through collaboration and mutual understanding with others (Hyslop-Margison & Strobel, 2007).

Technology

Technology is the application of knowledge into practical examples. This knowledge is useful as the learner comes across challenges which may need some practical. Technology Integration mean Technology integration is the use of technology tools in general content areas in education in order to allow students to apply computer and technology skills to learning and problem-solving. Generally speaking, the curriculum drives the use of technology and not vice versa.

Technology and constructivism have a complementary relationship: Contextual Learning: Constructivism emphasizes that learning occurs in contexts, technology provides the designs and environments that engage learners, active engagement: technology allows for active engagement by locating problems, providing rehearsal, practice, and assistance. Enhancing Cognitive Powers: Technology can enhance students' cognitive abilities by providing tools for exploration and understanding.

What is Learning?



Newby et al. (1996) argue that the constructivist perspective perceives learning as a process of creating meaning through personal experiences. According to constructivists, knowledge and truth are not external entities but rather constructed by individuals within their own minds (Duffy and Jonassen, 1991:9). This stands in stark contrast to the objectivist viewpoint, which posits that truth and knowledge exist independently of an individual's mind and are therefore objective (Runes, 1962: 217). Objectivists believe that teachers should transmit knowledge in a way that replicates the content and structure of the world (Jonassen, 1991:6). Consequently, the objectivist perspective sees education's purpose as helping students gain understanding of the external world. It is argued that a specific body of information needs to be imparted to them (Tam M,2000). Education is perceived as the process of gaining and gathering a limited number of abilities and information. Contrary to these notions about learning and knowing is the constructivist's view of learning being 'personal' and not purely 'objective' (Bodner, 1986). Von Glaserfeld (1984) has written

..... learners construct understanding. They do not simply mirror and reflect what they are told or what they read. Learners look for meaning and will try to find regularity and order in the events of the world even in the absence of full or complete information.

Constructivism places emphasis on the process of constructing knowledge, whereas objectivism primarily focuses on the object of knowledge itself. This fundamental distinction between knowledge and learning sets them apart in terms of both philosophy and the implications they have for instructional design.

English Language Learners in a Classroom that Embraces Diversity

Teaching a classroom filled with diverse learners who come from different language backgrounds can present a significant challenge for educators. The process of learning English encompasses cognitive, cultural, and language aspects. English Language Learners (ELL) can be particularly challenging for teachers due to the wide range of academic abilities, English language proficiency, and academic backgrounds they possess. Moreover, cultural disparities may impact students' success in the classroom. Extensive research has been conducted to determine the effectiveness of various strategies and techniques when working with ELL students, especially in an inclusive environment. An inclusive ELL classroom refers to a classroom where both ELL students and general education students are taught by a single teacher. This type of classroom setup offers numerous advantages for ELL students, but it also presents several challenges.



In an inclusive environment, ELL students are encouraged to use their English skills more frequently, particularly when interacting with their peers. According to Simich-Dudgeon (1998), student conversations, especially among culturally and linguistically diverse students, can greatly facilitate language acquisition, comprehension, and reflection. Additionally, collaborative discussions among students can provide valuable insights to the teacher regarding students' comprehension levels, enabling them to build upon existing knowledge and make the material more relatable to students (Mvududu N, Thiel-Burgess J, 2012).

Constructivist Perspective

Bednar and her colleagues (chapter 2) expand the foundations for a discussion of constructivism laid in this chapter by arguing that abstracting concepts and strategies from their theoretical position, as instructional systems theory has done, strips them of their meaning, so it is necessary to deliberately apply some particular theory of learning (preferably constructivist, cognitive theory) to the design and development of instructional materials.

Cunningham (chapter 3) argues that the goal of instruction is not to assure that individuals know particular things (e.g., as argued by Hirsch, 1987) but rather to show them how to construct plausible interpretations of those things, using the tools that we have provided or developed in collaboration with them.

Perkins (chapter 4) emphasizes the "active learner" component of constructivism. By this he means not just that the learner is an active processor of information but more importantly that the learner elaborates upon and interprets the information. Perkins emphasizes that this is not just a phenomenon of higher order learning but occurs even with such simple tasks as learning a person's name (learning a name isn't simply verbal activity). Perkins notes that a constructivist approach need not be discovery learning (Without the Information Given, WIG) but can also focus on more direct instruction as long as the emphasis is ongoing "Beyond the Information Given" (BIG).

Teacher's Role Constructivism

Teacher competence is among the most important determinants of student performance. The teacher must be skillful to handle the learning process. This is even more significant when applying constructivism (Darling-Hammond, and Falk, 1997). Several factors affect the learners' experiences. These are teacher's competence, beliefs,



and actions. The teacher guides the learner in the process of teaching and learning based on the interactive experiences (Brooks and Brooks, 1993).

Teachers should correct or warrant the knowledge a learner constructs, therefore promoting the development of powerful and effective constructions (Confrey, 1990, Ernest, 1994, Delannoy, 2000). They must direct the student to provide experiences that can question or expand upon their previous learning. Teachers must continuously reassure students that they are doing things right, that their thinking has power and their errors are correctable (Noddings, 1990).

Teachers should allow students to choose activities that create interest and also those which explain answers, and prompt students to be involved (Mikusa, and Lewellen, 1999). Students should be given space to explore for themselves areas of provocative acts, dilemmas or challenges so that they can use their talents to bring out experiences they will never forget as they forge forward with education (Pirie, and Kieren, 1992; Kriek & Grayson, 2009).

Constructivism and Technology

Instruction today faces two challenges. One challenge comes from the changing perceptions of what learning is all about. The second challenge comes from the new learning opportunities that technology now affords (Salomon, 1991). Constructivism has presented the first challenge of reconceptualizing learning as a constructive process whereby information is turned into knowledge by means of interpretation, by actively relating it to existing bodies of knowledge, by the generative creation of representations, and by processes of purposeful elaboration (e.g. Resnick, 1989).

Presenting the second challenge is the computer. Because of its versatility and accessibility, its use in education may help to shift the foci from knowledge-as-possession to knowledge-as-construction, and from learning as outside-guided to learning as self-guided. It also carries with it a renewed conception of instruction that shifts attention from instruction as the imparting of knowledge to instruction as the guidance of socially-based exploration in intellectually rich settings (Salomon, 1991).

We have seen a revolutionary shift in information technology over the past ten years, and we have also changed how we operate for different IT firms. There's never been a better time to investigate the new teaching approach than now, thanks to technology. The use of technology in English language and education (ELT) is actually rather important. With the use of technology, educators may now adjust to a wide range of classroom activities, which helps or supports students' acquisition of English. For all educated people, proficiency in English is a fundamental must. Now, the



placement cell requires it as a minimum requirement. It definitely takes work to become fluent in English; it's not something you can do quickly.

Teaching With Digital Technology Practice

The literature on the value of technology-based instruction in relation to the objectives of the study is examined by the researcher in this part. The two essential concepts for this subject, teaching and technology, are combined to form the phrase "teaching with technology." The definition of teaching as defined in the Merriam-Webster online dictionaries (2019) is to guide someone to acquire knowledge. This definition of teaching suggests facilitation of knowledge acquisition as compared to imposing knowledge. Technology refers to tools and machines that may be used to solve real-world problems (Bates, 2015). Since the meaning of technology refer to tools and machines in general, for the purpose of this study, the term technology will be used to refer to digital technology resources. Digital technology is defined as all types of electronic devices and applications that make use of a computer program (Harmon, 2018). Consequently, the use of digital technology by educators to promote learning is what is meant to be understood when one speaks about teaching using technology.

METHOD

This review article begins by presenting an overview of constructivism and technology concepts based scientific works. The data for this review was collected through a comprehensive literature review of peer-reviewed articles, books and relevant studies on constructivism and the integration of technology in English learning and teaching environments.

Data Collection

The data gathered was qualitative, focusing on theoretical discussion and case studies that explore the relationship between constructivism and technology. Source were selected based on their relevance to the topic and contributions to understanding the role of technological tools in supporting constructivist learning environments.

Data Analysis

The collected data was analysed thematically. Themes such as the influence of technology on constructivist pedagogy, its effectiveness in English language teaching, and the alignment of constructivist goals, beliefs and values were identified. Through this thematic analysis, key concern about the interaction between constructivism and technology were categorized.



Method Organization

The method is organized around established theories of constructivism, primarily those of Jean Piaget and Lev Vygotsky, which emphasize active learning and social interaction. Additionally, the TPACK (Technological Pedagogical Content knowledge) framework developed by Mishra and Koehler guided the organization of this review, connecting theoretical concepts with practical applications of technology in education.

FINDING AND DISCUSSION

This review shows that constructivism, which emphasizes active learning through participation in social and cultural contexts, is vital for effective education. However, integration technology in constructivist classroom can be challenging. Teachers often stick to familiar methods, which can limit the potential of new technology (Mishra & Koehler, 2006). Additionally, resistance to unfamiliar tools can prevent full adoption (Avidove-Ungar & Eshet-Alkalai, 2011). Training and support are necessary to overcome these challenges, enabling technology to enhance learning environments as intended.

The discussion points out that teachers need to progress beyond traditional practices and fully embrace technology within constructivist education. This involves several important steps: offering continuous professional development to help teachers gain expertise in new technologies and teaching methods, providing the necessary resources and support to integrate technology effectively into their teaching, and encouraging the use and adaptation of new technologies to match the constructivist approach instead of sticking to outdated methods.

CONCLUSIONS

Constructivism is a theory of learning that places a strong emphasis on students actively creating their own understanding. Instead of taking in information passively, students synthesize it from their experiences, make mental images, and add new information to existing schemas. This encourages comprehension and learning at a deeper level. This paper outlines several potential advantages of integrating technology into English language instruction that students might take advantage of to raise their skill level in the language. There are certain obstacles that do not prevent English language learners from using technology in their studies.

Whereas constructivism maintains that students can only create meaning by active interaction with the outside world – through activities like experiments or real-



world problem-solving – passive teaching sees the student as "an empty vessel" to be filled with information. It is crucial that educators avoid being enthralled with the power or novelty of new digital technologies or using them for their own purpose. Instead, these technologies can be fantastic tools for realizing effective pedagogy that is implemented to fulfil desired educational goals. Most people will find that to be obvious. Teachers, however, should be aware that the cost of new technology, the fervour with which many students embrace digital resources, and the need to appear modern and in step with the times can all be alluring motivators.

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