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Reframing Constructivism For Better Authentic Teaching And Learning

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Abstract

This literature-based study examines the use of constructivist approaches on students and lecturers. After comparing constructivist approaches to teaching to the behaviorist and cognitive approaches, the study argues that constructivist approaches develop positive effects on both students and teachers. The use of constructivist approaches in classrooms assists students in their academic performance and achievement of good results. For teachers, they do not need to come up with a lot of content as a big part of the content rises naturally during in-class discussions, but they need to understand the social and cultural background of students to reduce educational inequalities. This study also highlights a number of challenges for the use of constructivist approaches to teaching that include lecturers' attitude towards the use of constructivism, the need to develop new instructional strategies, and the lack of training. This article ends by recommending teachers' training programs to be ready to equip teachers with these strategies and skills that will lead active and engaging classes. As students are always the focus of the educational process, the emphasis on student-centered learning is constructivism's best gift to the nonstop movement of educational reform.

Keywords: Constructivism, learning theories, teacher role, student-centered classroom, cognitive learning, behaviorist approach.

1. Introduction

In the constant attempt to reform education, a general shift from the traditional teacher-centered classroom into a more student-centered one has been reinforced during the last decade. This initiated the rise of many learning theories that found their essence in constructivism.

Constructivist learning theories are based on the notion that "people learn best through personally meaningful experiences that enable them to connect new knowledge to what they already believe or understand" (Killen, 2007, p. 2). Learners reshape knowledge through the filters of their own real-life experiences and values. Instructors on the other hand teach best by supporting learners to find meaning in the newly acquired concepts through the use of questions. To do this several strategies are usually followed. One of which is group study and peer-to-peer evaluation (Duffy and Cunningham 1996).

In our attempt to explore constructivism, we came to conclude that there are three perspectives to this construct: a philosophical position, a theory of instruction, and a theory of learning.

As a philosophical position, constructivism offers "an insight into the nature of human knowledge'' Colliver (2002, p. 51). According to Colliver (2002), constructivism is not a theory of learning because saying that knowledge is constructed or that it reflects reality both mean that the principles of learning are the same. Constructivism as a theory of instruction or pedagogy attempts to explain how classrooms or instructions should look like. Both perspectives are not considered in the following study.

As a theory of learning, constructivism is considered rather a vague idea, providing misleading implications to teaching and incomplete views of human learning. Opponents attribute their attitude to the fact that though learners interact, to solve problems and comprehend new ideas; sometimes they ignore details, forget and fail to apply newly acquired concepts. Thus, the instructor's role cannot be deemphasized as they still have to provide instruction, demonstrate and allow learners to do drills and practice. Critics of the construct affirm that constructivism can manifest better if the learners are lucky to meet peers who are familiar with democratic practices and collaborative learning environments where humility, self-awareness, and power sharing are common practices (Schweitzer & Stephenson, 2008). Proponents of the theory who emphasize de-centering the teacher role in both instruction and assessments assert that it serves multiple positive purposes: to reduce the power struggle between instructors and learners, hold learners accountable for their learning, and encourage them to do self-evaluation.

Accordingly, this paper aims to canvass the effect of constructive theories of learning on both students and teachers to gain a profound understanding of the efficacy and impacts of this approach. This article is designed as follows: First, it offers an overview of the

constructivist approach and examines paradoxes. Then researchers attempt to overview current research by summarizing the findings of research to examine the effect of the constructivist approach on students' academic progress and to explore instructors' points of views. Finally, limitations and conclusions are made.

2.Overview of Constructivism

In examining constructivism as a learning theory, it is important to note that a variety of classifications and perspectives exist within the literature. Nola (1997) claimed that scholars have generated at least a dozen constructivisms within education practice including cognitive (Piaget, 1971), social (Vygotsky, 1978), critical (Taylor, 1996), and radical (Glasersfeld, 1984) constructivism. However, the focus of this paper is on the interpretations of Dewy (1916) ,who is best known as the father of progressive education and a great advocate for social learning(Slaghuter,2009). He considers learning as an active process and knowledge is rather constructed personally within a social context and thus it is not innate (Sanchez-Casal and MacDonald 2002). Today, more than fifty years after his death, Dewey's ideas of social learning are the most respected when it comes to talking about students' engagements in classrooms.

John Dewey's learning theory impacted the educational arena in the united states, Europe, and parts of Asia at the beginning of the 20th century. He criticized the traditional educational approaches that considered students passive learners, and the textbook and teacher as the most important factors to achieve success (Dewey, 1915). His theory is based on two major premises. First, education is not a preparation for the future but rather it is a process that continuously changes and develops through learners' experiences. Second, the school provides a community where a learner through activities provoking critical thinking can reach predetermined goals.

On learning and instructions, Dewey argues that the method followed should walk hand in hand with the subject taught. The method is "the effective direction of subject matter to desired results" (Dewey, 1966, p. 165). By providing problem-solving activities connected to the child's real experience and within his abilities, a better intellectual progress can be reached. Any attempt to isolate the method and the content, according to Dewey, leads to several anomalies in the school educational process. Thus, the teaching method "is the method of art, of action intelligently directed by ends" (Dewey, 1966, p. 170). This means that the teacher should be familiar with a child's development stages and follow his interests which are understood as "dawning

capacities" (Dewey, 1974c, p. 436). The teacher should be able to determine the learner's strengths and weaknesses within the process of development.

On the other side, Dewey alerts teachers from misinterpreting the "new education" by assuming that learners' interests and powers are to be valued. Teachers' and students' engagement in class is conscious and intentional aiming to give direction. To successfully implement constructivism teachers, need to make a wise selection for content and manage to organize it in a way to will lead the learner to develop abilities and acquire new experiences. By doing so we can't claim that because teachers' powers are taken a rise of discipline issues will occur. On the contrary, discipline is maintained through student engagement to control the process of attaining their goals. The teacher's role is not marginalized but rather it became an essential figure in the process of education for he or she is the one that provides a link between the subject and students' experiences. It is expected that the teacher possesses a deep knowledge of ethical and psychological principles, sympathy, and experience in order to succeed in this role ..

Thus, the theory as applied today demands the application of several active learning approaches that include inquiry, reflection, and problem-based learning (Kirschner et al., 2006). Active learning assumes that learners take part in an activity by discussing and reflecting to develop a new understanding of the activity. These activities which usually include skills and knowledge needed in the workplace are considered authentic (Fook and Sidhu, 2010). They include reflective papers, journals, problem-thinking cases, and real-world experiences (Kassean et al., 2015). The role of the teacher here is a facilitator or coach. Whereas, the learners are at the core of teaching endeavors and can use "their experiences to actively construct understanding in a way that makes sense to them" (Borich & Tombari, 1997, p. 178) without underestimating the value of factual knowledge.

Constructivism came to contrast both the behaviorists and cognovits approaches, which were the mainstream of learning theories for decades. Behaviorism was pioneered by psychologists Pavlov and Skinner who contend that learning occurs through conditioning. In other words, learners react to external triggers and change behavior accordingly. In a classroom context, students' progress is rewarded and regression is punished through the usage of grades. In traditional behaviorist classrooms the role of the teacher is to transport knowledge and students are expected to retain and export it back in

a form of objective tests (Rosenshine & Stevens, 1986; Good and Brophy, 1986). According to Rumelhart (1980), this process of exchanging knowledge is based on information processing theory. In this frame, teachers are usually valued for their ability to make eye contact and use a variety of questions to simplify concepts for students (Dev, 2016). As in all behaviorists' theories, the focus is to reach changes in the behavior of students through lore learning and practice. Questions about personal judgments, solutions, and creativity that involve the analytical thinking of students are not given importance and any type of answer is considered a right personal opinion. On the other hand, cognitive learning was initiated by Atkinson, Schweitzer, and Shiffrin (1968) focuses on how learners process information. The instructional strategies of which concentrate on students' thinking process canvassing attention, encoding, retention, and retrieving. Instructors' role is inclusive of helping students create songs or mnemonics or using other forms of practice such as homework to enhance memorizing new concepts.

The role of educators in both approaches also contrasts. While both behaviorists and cognovits teachers who base their practice on objectivism rely on standardized assessments that test the delivered content, constructivist teachers emphasize the learning process as much as the outcome. In their assessments, constructivists rely on student reflections (Ryan and Ryan, 2013).

Constructivism thus reshaped the role of each element in the tirade of learning: the teacher, the student, and the design or instruction. In the context of classrooms, constructivism delivers a new pedagogy where the emphasis is on what students do than what teachers do. Students organize information, design learning activities, explore the learning environment, and assess their learning. As for teachers, they focus on depth of understanding and assume a supporting or 'reflective' role. There is no specific teaching practice followed by constructivists but rather an array of approaches typifies it. Peer-to-peer interaction associated with democratic decision-making and discussions is at the core of this design. Games and role-play theater-inspired activities are common practices in constructive classrooms. This emphasis is primarily on having different forms of expression. As for assessment, it shifts away from summative where an objective value such as a grade is given towards providing feedback that points to possible consequences and provides suggestions for improvement (Finkel, 2000).

Constructivists contend that cognitivist and behaviorist pedagogic models underestimate learners, and centralize the role of the teacher. Whereas in constructivism the real world is the context used for students to build knowledge and the teacher's role is to facilitate the process by posing questions.

2. Paradoxes

Most of the counterarguments rise from a philosophical perspective of understanding constructivism. Fox (2001) believes that constructivist learning theories provide an inaccurate view of how humans learn thus leading to misleading implications for teaching in classrooms. He considers that constructivists' major premises that learning is an active process are not true because human beings and animals are constantly adapting and acquiring knowledge of their environments in order to survive.

Constructivism thus emphasizes only one aspect of human experience. As for the other premise of constructivism that considers knowledge is not innate but rather constructed, Fox (1997) also disputes this by claiming that human beings' cognitive system is unique and different from that of many species. Perceiving, reasoning, and speaking are all derived from the inherited, innate capacities of the evolved human nervous system. The claim that knowledge is invented or constructed is based on a subjective view of human perception which is against sociocultural theories that argue that knowledge is not a reflection of objective reality (Rorty, 1979; Von Glasersfeld in Fosnot, 1996) but we develop a subjective conceptualization relative to the world we know. Finally, Fox (2001) debunked the claim that effective learning requires analyzing open-ended and challenging questions for the learner. It is obviously known that improving critical thinking and problem-solving skills are challenging for teachers when designing classroom activities or even writing lesson plans especially when students consider these topics remotely relevant or interesting to them. So, no matter how active learning is carried- active whether it includes activities such as reading a book, or listening to an Ted Talk - yet this does not mean that it is interesting and relevant to all learners.

Also, Bowers (2005), in his book The False Promises of Constructivist Theories of learning: A global and ecological Critique, attacks Dewy, Piaget, and Freire's constructivism interpretations. He attributes that to their denial of the cultural context of learning because this single view of learning does not encompass nonwestern cultures, instead, it is used as a tool to impose the monoculture of Neo-Liberal ignoring

that it is irrelevant to many nonwestern and indigenous cultures (Sher & Flenders, 2006). Though he agrees that critical reflections and experimental inquiry are emphasized, they can only occur as part of an operating culture where philosophical thought of Enlightenment exists. In his book, he refers to the Quechua of Peru as an example of a culture that does not conform to Piaget's (1971) stages of development and that cultural knowledge is neither fixed nor learned through a 'spectator approach'.

However, a body of academic research emerged to support the importance of constructivist learning theories. In the coming section, we will examine an array of research that examines the impact of constructivism as a pedagogy on both students and teachers.

4. Literature Review

The following review of recent studies aims to examine the effect of the constructivist approach on students and teachers. The academic success of students and teachers' attitudes are the main focus.

Semerci and Batdi (2015) carried out a comparative study examining the influence of the constructivist approach on the academic achievement, retention, and attitude of students. They found that the use of the approach has significantly increased the academic achievement and retention of students but the influence on attitude was on the medium level. Their comparative study looked into primary, secondary, and undergraduate students. This shows that regardless of the level of students, the use of constructivist approaches has a positive influence on students and helps them learn. The findings of this study are rather interesting due to the scarcity of meta-analysis studies in this domain.

Sridevi (2013), in his study titled 'Effects of Constructivist Approach on Students' Perception of Nature of Science at Secondary Level', presents a quasi-experimental study to investigate the effect of the constructivist approach of teaching on students' perception of the nature of science among eighth-grade students. The statistical data collected showed that constructivist teaching is more effective than conventional teaching thus confirming the results coming from the previous study. Findings also pointed to no significant difference between males and females. An innovative and democratic classroom was shown where students' autonomy was revealed and the relationship between students and teachers contrasted that in the traditional classroom. Students expressed that they enjoyed the classroom environment free of stress and developed healthier relationships with their classmates and teachers.

Szili and Sobels (2011) looked into the implication of the constructivist approach, as opposed to the objectivist approach, on the performance of environmental management students in Australia. They found that constructivist approaches can be used "To encourage normally pragmatic, minimalist work ethic, first-year students, to be active, enthusiastic learners both within and outside the University (p. 499). This adds to the argument that the use of the constructivist approach can help in motivating students to learn. By being active in the process of knowledge acquisition and in transforming it students developed higher-order skills. The researchers attributed this to their constructivist teaching pedagogy where different tools and assessment methods were used. Szili and Sobels (2011) believe that as the implication of the social constructivist theory benefited first students, it can also benefit year 2 and year 3 students as it helps in increasing "their scientific and social literacy" (p. 510).

With students displaying learning disabilities creating a collaborative learning environment where students' reflections are at the core of classroom activities, a reduction in challenging behaviors was recorded (Lee, 2022). This study examined challenging behaviors that could disturb the learning space in a college in the United Kingdom. Several male students with learning disabilities and physical disabilities (LLDD) participated in a 10-week,1-hour focus group discussion about their challenging behaviors. A thematic analysis of these discussions revealed a shift in students' perception of their behavior and consequently lead to a reduction in the display of undesired ones. Thus, researchers concluded that once students engage in creating their own learning space, they become less defensive of their challenging behaviors.

Regarding teachers' attitudes towards applying constructivism, Kosnik, Menna, and Dharamshi (2018) reached their conclusions based on interviews with 28 English teacher educators on three aspects of constructivism include "knowledge is constructed by learners; knowledge is experience-based; and a strong class community is essential" (p. 105). They found the use of the constructivist approach led to the development of an open classroom environment that helped students start discussions and encourage interactions. They also found that the classroom can be dynamic, but chaotic at times. Teachers, on the other hand, had an overall plan for their sessions and assisted in developing a collaborative classroom environment. To do this they started by creating a sense of community by building their online social communities. Thus, aligning

their practice to Dewey's Perspective "Education is essentially a social process.

In the study titled 'Teachers Attitudes towards Constructivist Approach to Improving learning outcomes: The Case of Kosovo', Ahmedi, Kurshumlija, & Ismajli, (2023) examine teachers' attitudes to using the constructivist approach in teaching primary schools in Kosovo. Questionnaires and semi-structured interviews were conducted with 40 teachers and 113 students. Findings revealed a significance of ($p < .05$) proving that using constructivist pedagogy impacted learning outcomes. The same value of significance -($p < .05$) was recorded when examining teachers' attitudes. Based on this study we can claim that most teachers who engaged in this study have positive attitudes toward constructivism. Yet, it proved rather challenging to achieve their desired learning outcomes in all curricular areas, especially in the way most schools still practice. By following the constructivist approach, classrooms shifted from a teacher-centered to a student-centered environment by using reflections and discussions. According to Kim (2005), these findings add to the body of literature that promotes constructivist instruction over traditional to get the better academic achievement.

Another qualitative action research by Altun and Yucel (2015) confirms the efficacy of the approach. In one state university in Turkey, 55 secondary science teachers participated in a teacher training certificate program. Their written notes reflections and responses to questionnaires were obtained. The analysis of which lead to the conclusion that teacher candidates who were introduced to a constructivist learning environment reported that their knowledge and professional skills were improved.

5. Findings and Discussions

Upon examining the impact of constructivism on students and teachers, the findings of all the above studies can be summarized in the following points. First, for students, a constructivist learning approach in classrooms is more effective than a traditional learning method for it positively impacted students' academics. Measures of academic success varied but surely assessment under the constructivist umbrella took a different form. They occur throughout the learning process, not just at the end of a certain period or unit (Gulati, 2008). Probably the study of Semerci and Batdi (2015) brought the most compelling evidence of the efficacy of the construct. Their meta-analysis study covered 10 articles and 18 theses conducted between 2022 to 2015. The quasi-study investigating the effect of the constructivist approach on learners' academic performance displayed

that effect sizes on academic achievement and retention in the experimental group are larger than in the control group.

Second, teachers' reflections on aligning classroom instructions, assessments, and learning outcomes into a constructivist approach has motivated students to pursue authentic learning and display a stronger engagement with their communities (Szili and Sobels, 2011). The examined data indicates that an instructor's role was mainly to focus on the process, not the product (Gunduza & Hursen, 2015). Teachers are more flexible in designing classroom activities. They rely on students' reflections and responses to adapt their lesson plans. According to Lynch and Sungoh (2017), teachers' positive attitudes toward the constructivist approach will contribute to the academic achievement of the students. These positive findings touched even students with learning disabilities as deduced from Lee's (2022) study. It is worth mentioning here that a constructivist teacher does not consider learners as 'empty vessels' ready to be filled but rather as individuals with certain skills, talents experiences, and goals.

Despite Richardson's (2003) belief that it is difficult to translate a theory of learning into a pedagogy but the kind of activities used by the group of LTEs teachers offered greater opportunities for learners to connect with their surroundings (Kosnik, Menna, Dharamshi, and Beck, 2018). The curricula or activities used in this approach were not part of the scope of this study.

6. Limitations

Educational reform efforts have long focused on external considerations like improving standards and assessments. Constructivism emerged to provide an opposite perspective from that of the main seam because it considers instruction, and social dynamics central to learning. Talking about the limitations of the construct, it is essential to point out what Kennedy (2016) considers a dilemma. According to him, teachers are trained to give specific instructions but also, but they are also expected to follow a cooperative approach. students are expected to reach to specific solutions but at the same time as constructivists, we open the doors for individual points of view. Constructivism is promotes as as a magic solution for many classroom issues but there is no one right way to use it in teaching specific skills. Also, it is challenging for an instructor to understand and apply a constructivist approach especially if he/she has not experienced it (Darling-Hammond,2006).

The empirical studies examined came to refute some of these claims. In Ahmedi.& et al (2022) the findings proved that attaining results in

curricula was a challenge to teachers due to restraining school practice but the teachers' ability to adapt lessons by responding to students' suggestions yielded more active classrooms. Thus, only if teachers work on the process, not the product, and display a favorable attitude to this process positive outcomes be shown.

The unrealistic expectations of constructivist teachers promise that students' natural learning capacities will develop once teachers develop strategies that evoke students to use prior knowledge and adapt to the environment. In this sense, the classroom is portrayed as a fun place and learning is gained with no tears. This is rather an oversimplified explanation. Of course, learners need to interact carry dialogues and display problem-solving skills, but only if teachers are expert enough to present systematic instruction, demonstrations, and practice.

In Kosnik, Menna, and Dharamshi (2018) teachers reported that though teaching strategies carried elements of traditional courses such as the syllabi, assignments, and lectures, yet the way they incorporated them into their classes transformed teaching and learning. A one size fit for all students is impossible. But the practice performed by most constructivists had some common features that included using inquiry, and reflections, building real-life experiences, and creating a climate of dialogue.

This highlights the need to make a change in pre-service and in-service teacher programs and practices. It is exceedingly challenging for a teacher to comprehend and apply the approach alone. Constructivism is both a philosophy and a pedagogy. Teachers' perception of learners, learning process, and evaluation should be re-examined from a constructivist point of view. Therefore, teachers should be equipped with strategies that help them to design activities that help their students to accommodate the social context of learning to build authentic knowledge and reflect on their learning. In other words, they should be equipped with the intellectual and emotional capacities to work on it. As for the curricula and pedagogy, instructors using many instructional strategies, such as presentations, reflections, role-plays, and other activities serve constructivist theory. Yet, we cannot say that constructivist pedagogy has a fixed menu of activities that instructors can pick and choose. Design or instruction is meant to be malleable to fit the needs of each group's learning environment and context.

Conclusions

This article was designed to investigate the impact of constructivist learning theories on students and teachers. An array of recent

empirical studies that examined the application of constructivism in the classroom yielded positive effects on both students and teachers. Yet, though the article did not focus on the different types of instructions used, we could say that the application faced a couple of challenges for teachers. The discussion carried to lead the researchers to call for embracing constructivism as a learning theory. In order to do this, we need to reshape the role of student, teacher, instruction, and assessments. Challenges can be attributed to teachers' and students' misconceptions and practices of constructivism.

In their attempt to give power to the students, constructivist teachers relinquish the powers of their roles as mentors and emphasize students' free minds and individualism. Instructors then found it difficult to develop high-order thinking capabilities because students felt that they have the authority to perceive subjective knowledge This does not have to be the case for they still need to set standards that will "assist students to realize their potential and guide them to the standards necessary for analytical reasoning, writing and communication capacities and other skills needed in professional fields" (Lea and Stephenson, 2008, p. 591). Teachers need to assume this role of actively mentoring learners to guide them to the standards needed in order to be able to perform high-order reasoning and analysis. These practices were recognized in the studies examined. So, it is essential for teacher training programs to provide future constructivist instructors with a psychological and philosophical understanding of the construct. In addition, these training programs should help teachers develop a deeper understanding of the social and cultural backgrounds of students so as to reduce educational inequalities. Constructivism is not taking away from teachers the power to construct a well-organized lesson, but rather it is opening the roads for students to interact with this new knowledge within the context of their own environment so as to form authentic learning and develop lifelong skills.

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