Did Covid-19 reshape constructivism approach?
A synthesis paper during the world-wide shift to full distance learning

Frank Angelo Pacala¹*, Rolando Obiedo²

¹Presidential School of Uzbekistan, Qarshi City, Uzbekistan
²Coordinator, Graduate Programs, University of San Carlos, Cebu City, Philippines

*Corresponding author: pacala_frank05@yahoo.com

**ARTICLE INFO**

**DOI:** 10.46223/HCMCOUJS.soci.en.13.1.2682.2023

**ABSTRACT**

The Covid-19 pandemic had a profound effect on the use of constructivism in learning. As schools and learning institutions around the world were forced to transition to online classrooms, teachers had to find new ways to reach their students and engage them in an educational environment. This study was conducted to synthesize the various researches about the impact of a pandemic on the constructivism theory of learning. This paper used the general principle of constructivism to conduct the synthesis review. The findings indicated that there was disruption in student engagement but collaboration among students was maintained. Also, the process of lesson contextualization was interrupted as classes were moved to online platforms. Teachers have used various tools to check the integrity of the students’ outputs and literature suggest that outputs have been upright and reliable. The support of the parents to the learning of the students was perceived to be enhanced. Hence, the constructivism approach was taken to a new level and was truly reshaped by the pandemic.

**Keywords:**

constructivism; constructivism approach; Covid-19 pandemic; distance education; online learning; textual narrative analysis

**1. Introduction**

The shift to online modalities of learning was the only resort governments had to continue educating their constituencies during the peak of the novel coronavirus (Covid-19) pandemic. Although some schools opted for a hybrid format (e.g., online plus modular approach), a huge percentage of this platform was online and distance education. The movement to an online learning approach has affected how students and even people construct and reconstruct knowledge. Some opted to believe misconceptions even the educated ones. In people’s philosophical belief, health and life were most essential at that time and education was a secondary or worst a tertiary commodity. In a way, this promotes the stagnation of ideas or the development of knowledge slowed. The Covid-19 pandemic has brought unprecedented challenges to educational institutions and different learning styles. In the context of constructivism, teaching, and learning have been affected due to changes in physical classroom settings, reduced face time between students and teachers, and limited interaction with peers (Radhamani et al., 2021).

The constructivism approach started with the theories of John Piaget called cognitive constructivism in 1964. According to Piaget, children learn through assimilation and accommodation of schema. When a new schema is brought to the child, it needs to be accommodated to form equilibrium (Nja, Ndifon, & Cornelius-Ukpep, 2019). Following the works of Piaget, Lev Vygotsky introduced social constructivism. Vygotsky said that a child needs constant assurance that he is learning well from the support of another individual like the parent.
He calls this the Zone of Proximal Development which is a space where a child can learn without support and with assistance from another person. Through language, the child can acquire new knowledge and reconstruct knowledge for his own understanding (Woo & Reeves, 2007). The last major proponent of constructivism is John Dewey. He is famous for this experience of learning by doing while doing it. Dewey argued that schools should provide avenues for students to explore and enhance their skills and contribute to the development of the country (Williams, 2017). Considering the theories and ideas of these proponents on how education should be implemented, were these affected by the Covid-19 pandemic?

The purpose of this research is to synthesize how the pandemic of Covid-19 affected the constructivism approach based on the literature from 2019 to the present. It is of prime importance to check this matter since most curricula around the world has a constructivist approach into it. This paper analyzed how extensive the use of this approach was during the shift to online learning. Although it was an extraordinary time which some say requires extraordinary measures, legalities prevail that the constructivist approach should be used in the classroom. For instance, in the Philippines, the basic education curriculum called Kindergarten to Grade 12 (K to 12) law requires schools to use constructivist approaches among other myriad of approaches written on the law. This can actually maintain that the teaching is valid and reasonable.

2. Theoretical basis

Constructivism is a theory that emphasizes the importance of social and contextual factors in educational processes. It originated from the work of psychologists Jean Piaget, Lev Vygotsky, Jerome Bruner, and others. Williams (2017) presented that constructivism stresses the roles of personal experience and interpretive understanding in learning. It rejects traditional notions of curriculum delivery in which knowledge is presented to learners in a rigidly structured form as Nja et al. (2019) added. According to this approach, students become actively involved in the construction of their own knowledge, with teachers playing an active role as facilitators. Constructivism has been applied widely in different classroom settings, particularly those focused on collaborative or project-based learning (Deslauriers, McCarty, Miller, Callaghan, & Kestin, 2019).

This synthesis follows the model of Tam (2000) in his generalized characteristics of constructivism in the classroom. He listed four to wit are student engagement; contextualization of concepts; collaboration; and knowledge construction. Tam (2000) emphasized that constructivism is an educational theory that promotes student engagement as its core focus. Constructivism emphasizes the importance of student engagement and learning by exploring, examining, and comparing so they can use prior knowledge, develop new ideas, and draw unique conclusions. In this approach to education, student knowledge construction plays a key role. He further argued that the role of the educator in this type of learning environment is to create experiences that will help contextualize concepts in a way that is meaningful to each individual student. Additionally, through collaborative work, students can build knowledge by engaging in open dialogue, sharing ideas, and assessing each other’s work (Tam, 2000). These four characteristics were the main themes of this research. This guided the study of whether there was constructivism in the online classes and how extensive was the use of this approach in the teaching and learning process.

3. Methodology

This synthesis paper followed the guidelines promoted by Popay et al. (2006) on textual narrative synthesis. They argued that the main goal of textual narrative synthesis is to extend, elaborate, or to a point, critique an idea of a published article, research, and review. Barnett-Page
and Thomas (2009) believed that textual narrative synthesis makes the paper clear on the subject of the synthesis and what each study presents as individual cases. Textual narrative synthesis is the process of combining elements of different texts to form a whole, cohesive document. It can be used to create new textual narratives from existing material or to analyze an existing document in order to better understand the text as a whole. This synthesis can be done using research-based evidence and written with either primary or secondary sources (Campbell, Katikireddi, Sowden, McKenzie, & Thomson, 2018).

This paper used different journal depository websites to collect studies that fit in this synthesis. These websites include Google Scholar, Emerald, Elsevier, and EBSCO. The main keywords inputted in these journal depository websites are Constructivism in Covid-19; Constructivism in distance education; Constructivism; and Constructivism + Covid-19. Some Boolean Operators were used like ‘OR’ and ‘AND’, and a binary operator ‘+’ was utilized as well.

When these keywords were typed into the websites, more than 100 results appeared in 10 sections. These were sorted out. Only those articles that relate to constructivism in the Covid-19 years were included. The inclusive year was 2019-2022. Those that showed abstract only and non-English were not included. In addition, only original articles were downloaded for synthesis. The context of these papers was general education in nature. Papers coming from higher education and basic education. The learning theory of constructivism is most likely to be the same for both levels. A total of 12 articles were part of this research paper. At least ten articles are needed and required for a feasible and comprehensive textual narrative synthesis (O’Donovan et al., 2019).

4. Result and discussion

4.1. Students’ engagement during a shift to full distance learning

It is a reality that engagement during distance learning classes has depreciated. Many works of literature can attest to these findings (Dolan et al., 2020; Lamanauskas, Makarskaite-Petkevičienė, Gorghi, Manea, & Pribeanu, 2021). The impact of the Covid-19 pandemic has roiled student life, requiring a difficult switch to online learning for many college and university students. As a result, educators have found it very hard to engage students on online platforms. In fact, large survey studies of higher education students since the outbreak of the pandemic consistently report decreased levels of engagement (Dolan et al., 2020). The shift to virtual classes can be especially challenging because they lack in-person interaction, visual cues, and other elements that provide enrichment opportunities (Davis, Sun, Lone, Levi, & Xu, 2022). According to a survey conducted by the University of Notre Dame’s Alliance for Catholic Education (ACE) and Catholic School Management, almost 70 percent of Catholic K-12 schools and more than one-third of all U.S. households reported that students have experienced decreases in engagement or motivation since the pandemic began (Lamanauskas et al., 2021). Further research from von Keyserlingk, Yamaguchi-Pedroza, Arum, and Eccles (2022) showed an increase in disruptive behaviors coupled with apathy among many students learning remotely. They added that more than a quarter of respondents said they noticed unusually low levels of student engagement and/or disruptive behaviors in a virtual environment-up from 17 percent during the spring semester.

Despite these difficulties, students in online classes should still find ways to remain engaged as much as possible. This requires the methodological capacity of the students and training for students to be engaged in the distance classes. For instance, teachers took advantage of technology while in a class by using discussion boards and interactive activities. This encourages student participation and understanding of the material. According to research from Neuwirth, Jović, and Mukherji (2021), regular attendance during video calls helps sustain some
sense of community among classmates even if in a remote setting. Finally, mastering effective communication with instructors was essential for successful learning outcomes during the pandemic (Alawamleh, Al-Twait, & Al-Saht, 2020).

The maintenance of student engagement at any time of learning is highly dependent on the teacher’s activeness in promoting constructivism. Allen, Rowan, and Singh (2020) suggested that teachers had structured students’ learning experiences with meaningful, engaging activities. This was done by including online courses and projects, digital story-telling exercises, and research activities that involve collaboration with peers, family members, or people in the local community. Additionally, Martin, Xie, and Bolliger (2022) added that teachers had made sure to model responsible and effective use of technology for both teaching and learning purposes. Regularly scheduled practice sessions on using new technologies can help keep students actively involved in their own learning process. Finally, engagement was highly seen by regularly checking up on their students’ progress; this was done in person (where permissible) or through phone calls and emails, or other messaging apps. With consistent communication between teacher and student, understanding of any topic was deepened and maintained over time as well as tailored for each individual child’s needs (Tay, Lee, & Ramachandran, 2021).

4.2. Contextualization of teaching and learning

The process of contextualization was significantly disrupted. The normal laboratory practical activities were moved to electronic lab activity which is actually far from reality. It was even difficult for the medical field because there were many lacking practical activities that are important for their future career. During the Covid-19 pandemic, contextualization of teaching and learning has been a critical factor in maintaining educational continuity. Contextualization of teaching and learning is a process that helps learners manage and optimize their educational experiences during the Covid-19 pandemic. Contextualization involves changing curriculums to reflect current topics and events as they relate to students' lives. This also encompasses understanding the environment in which students live, their needs, the resources available to them, and the impact of the pandemic on their studies.

By contextualizing teaching, teachers were able to adjust to the new social and economic circumstances brought about by the pandemic and help their students understand them (Simamora, 2020). The use of online tools such as virtual conferences, video conferencing, and even virtual classrooms provides an excellent way for educators to provide content that is both relevant and timely. Additionally, the use of technology helps transform delivery methods making them more interactive and engaging for students who are regulating their learning experiences. Additionally, contextualization helps to address potential issues such as limited access to technology or materials (Skevington & WHOQOL SRPB Group, 2020). By recognizing and responding to potential difficulties with flexible approaches, educators can ensure that all students have an equitable chance at success despite context-specific hardships during these unprecedented times.

The advantage of contextualization in online education was that students were perfectly adaptable due to their exposure to different electronic tools like mobile phones and computers. Many students managed to maintain their levels of academic achievement while navigating the digital platforms even those they had never used before (Mizani, Cahyadi, Hendryadi, Salamah, & Sari, 2022). Several educational providers have also released digital resources that aim to help bridge the digital divide and provide an equal opportunity for all students by enabling them to access educational materials from wherever they may be. Moreover, some studies have shown that living in lockdown does not necessarily mean lower academic performance, especially for students with high self-control and stress management skills (Chisadza, Clance, Mthembu, Nicholls,
Yitbarek, 2021). The discussion should highlight the special and outstanding points of the research; explain research results, and the impacts; compared with previous studies.

4.3. Collaboration in distance education

The Covid-19 pandemic has created immense challenges for students, parents, and teachers in terms of teaching and learning. The sudden switch from in-person to remote settings has heavily disrupted normal instructional routines and caused confusion, stress, and a sense of isolation for all involved (Neuworth et al., 2021). Constructivist approach should promote collaboration as Vygotsky said that learning is a social process. There was extensive research saying about the increased involvement of parents in doing students’ school tasks. Bhamani et al. (2020) detailed the parent’s involvement in the schools’ tasks. Parents became home tutors and guided their children in completing the modules. There was also an increased close relationship between the parents and their children. In the study of Suárez et al. (2022) offers similar results but found difficulties in tutoring children with special needs. Also, they reported that families have difficulty managing their routines and resources for online learning. Despite the challenges posed by Covid-19, these extensive efforts taken by students, parents, and teachers alike demonstrate remarkable resilience in the face of adversity (von Keyserlingk et al., 2022).

Furthermore, teachers provided support and feedback while collaborating with their colleagues in a hybrid environment. Teachers use a variety of mechanisms such as online discussion boards, virtual bookshelves, quizzes, and writing activities to provide feedback on tasks (Zayapragassarazan, 2020). Other methods used include creating video recordings of their comments on student work and providing written feedback via emails or blog posts (Wyatt & Woolverton, 2021). Home visits were organized for low-income families who lacked digital access and physical materials (Guzman, Arellana, Oviedo, & Aristizábal, 2021). Such models allowed students and teachers to interact more directly from any location. This provided an opportunity for teachers to tailor their instruction according to each student’s needs while allowing students to engage in reflective dialogue with peers and teachers about their learning. Additionally, teachers were able to provide feedback throughout the lesson or assignment cycle, offering students more opportunities for meaningful learning (Vellanki, & Bandu, 2021). This collaboration helped foster a stronger sense of community both within the classroom and beyond it by providing multiple outlets for students to explore their interests.

In terms of student-to-student collaboration, students collaborated with each other in meaningful ways to learn and build community. One example of such collaboration is Prodigy Math Game, where students talked and learned together through an online game. Additionally, during the pandemic, some students developed websites, social media groups, and other platforms to support their peers in understanding topics they may have struggled with before or when in-person classes were put on hold (Sobaih, Salem, Hasanein, & Elnasr, 2021). Other student initiatives included virtual robotics coding camps that teach computer programming to youth interested in developing technology-related skills (Dietz et al., 2022). The effect of this collaboration has helped build relationships between remote learners while still providing a safe learning environment.

The achievement of students in spite of distance in education cannot be denied. Collaboration among students during the Covid-19 pandemic has been paramount to their success. Through working together, students were able to complete coursework and assignments virtually and in a timely manner. Having an online space to create study groups and host Zoom meetings has enabled students to remain connected with both their professors and other peers for help on academics and general advice. This form of collaboration not only aids personal growth but also
builds up the local community with the newfound knowledge that would otherwise be unavailable without the aid of technology (Manna et al., 2021).

### 4.4. Knowledge construction of students

During the Covid-19 pandemic, students have used a variety of tools to produce knowledge and develop new skills. They have used online resources such as webinars, podcasts, and video lectures to stay abreast of the latest research and develop innovative ideas. Additionally, they have employed virtual exchange programs to collaborate with peers in other countries across the world. Working with each other has enabled students to access a wide range of perspectives and generate fresh ideas (O’Dowd, 2021). Additionally, the pandemic led to an increase in student-run research projects, most especially among medical students. This gave them an opportunity to apply the knowledge they had gained through their studies (Simon, Reuter, Fabricius, Hitchcock, & Pierce, 2022). Lastly, with social media becoming even more pervasive during this time, students were able to share their work on global platforms and gain recognition for their work (Mertens, 2019).

Though students were able to submit and complete their academic tasks, it is paramount to ask if these outputs were of good/best quality and out of their own knowledge. It is now easy to get the answers from the internet. The quality of student outputs during the Covid-19 pandemic has been highly contested. A survey conducted by Al-Maskari, Al-Riyami, and Kunjumuhammed (2022) reported that students often felt distracted and lacked adequate motivation to complete critical assignments, with a decrease in overall productivity during the pandemic. They added that many schools were unable to provide an optimal learning environment due to logistical constraints caused by distance learning. The lack of regular in-person instruction and decreased social interactions have hindered many students from achieving as much as they would have in a pre-Covid-19 world (Lugonzo, 2020). Decreased funding has also been linked to learners having fewer opportunities to stay engaged with school-related activities, making it harder for them to remain focused on what tasks require their attention (Kamal, 2021).

This required teachers to use tools to check and monitor the quality of students’ outputs. Many educators have turned to online software tools such as Turnitin and Moodle that allow instructors to give feedback on a student’s work while tracking its accuracy and utility. Additionally, video conferencing services have become increasingly popular, allowing teachers to virtually check in with their students and observe them completing tasks. Finally, virtual classrooms provide teachers with the ability to collect data from student interactions and assessments as a way of measuring overall engagement (Zalat, Hamed, & Bolbol, 2021). With these technological tools at hand, it was easier than ever for instructors to monitor and assess the quality of their student’s work during the pandemic.

Despite these difficulties, many teachers have worked hard to ensure that their students’ engagement and educational performance is not significantly hindered. Hence, despite considerable challenges across most schools during the Covid-19 pandemic, the overall quality of student output remains largely intact. On the other hand, some educators are advocating for a comprehensive assessment of students with blended approaches and innovative measures since there is no proven way to decide the quality of school work (Elumalai et al., 2021). Though virtual learning is an appropriate alternative in this situation, its outcomes cannot be assumed to be on par with conventional activities. As Valizadeh (2022) argued that the shift to remote learning has demonstrated that traditional checks on cheating, such as assigning take-home exams, do not adequately protect against potential breaches in academic integrity.
5. Conclusions & recommendations

The Covid-19 pandemic has reshaped the use of constructivism in learning. As schools and other educational institutions had to move to online platforms, constructivist learning was used more often than ever before. This type of learning is designed to be self-guided, so it works exceptionally well when learners are on their own and exploring multiple resources from home. Constructivism in learning has been a valuable approach during the Covid-19 pandemic, notably due to its flexibility and effectiveness. By providing an interactive virtual classroom with appropriate support materials, teachers have successfully managed to reinforce students’ knowledge and broaden their understanding of various topics from a distance. On the other hand, there was uncertainty over the quality and integrity of the outputs of the students. Although the outputs are checked by plagiarism scans, still the veracity of they came from the students is not verified. The engagement of the students during the pandemic was reduced due to limited resources from the students like lack of internet and ability to properly use the device or platform.

Ultimately, constructivism in learning is essential for students to maintain their motivation, growth, and developmental levels during the pandemic. Thus, it could be argued that the covid pandemic has encouraged educators to more widely embrace constructive methods of teaching and learning more in order to facilitate a smooth transition to online learning environments. Although educational problems persisted during the years of the pandemic, this did not prohibit education to be discontinued. Constructivism encourages student learning and growth through active participation, by allowing students to discover knowledge from an application of their own prior experiences. The use of constructivist activities like questioning, problem-solving, and decision-making are strategies that can help foster independent learning without sacrificing educational outcomes. Additionally, constructivism provides opportunities for meaningful collaboration even when physical classrooms are not available, by focusing on experimentation and communication between learners. It is particularly useful during the time when social distancing measures have left us all feeling isolated or overwhelmed, as it promotes a sense of individual control within the learning experience. All these elements contribute to creating a highly engaging atmosphere that can truly enhance the learning experience in an effective virtual setting.

References


