



COLLABORATIVE PEDAGOGICAL APPROACH AND VIRTUAL CLASS PARTICIPATION: IMPLICATIONS ON STUDENTS' ACADEMIC PERFORMANCE IN CURRICULUM AND INSTRUCTION II

Osuji, Gregory Ekene, fms, Nwafor, Alphonsus Onyeacholam and Enekwe, Rosepetra Chiazokam

Department of Educational Foundations, Godfrey Okoye University Ugwuomu-Nike, P.M.B. 01014, Thinkers' Corner, Enugu, Nigeria

Abstract: The Covid-19 pandemic awakened the need for virtual classroom in Godfrey Okoye University Enugu, Nigeria. Students continued their lectures uninterrupted despite the shutdown of schools as a result of the outbreak of the pandemic. The creation of an effective learning management system by the Information and Communications Technology (ICT) unit of the University made it easier for students to study from their homes and interact freely with their lecturers online. Lecture attendance was mandatory and roll calls taken. After the compulsory shutdown of schools, the university immediately adopted a blended learning system – physical and virtual. This study establishes how collaborative pedagogical approach enabled the lecturers to sustain students' active participation in a virtual classroom. The course for the study was EDU 421: Curriculum and Instruction II. Three lecturers handled the course. The lecturers had an intact class of 50 final year Education students in a natural virtual classroom setting. The lecturers taught the students 8 major topics within 14 weeks. Class attendance, assignments, and mid-semester examination were taken seriously, and they made up the continuous assessment of 30%. In the end, there was end of the semester examination of 70%. The summary of the result show that out of the 50 students, 7 got As, 31 got Bs, 6 got Cs, 3 got Ds and 3 got Fs. This study concludes that students' active participation in class earned them positive learning outcomes. Therefore, the need to engage students fully in a virtual class cannot be overstressed. This is because sustaining students' interest enhances their academic performance in a virtual classroom.

Keywords: Virtual classroom, collaborative pedagogical approach, synchronous and asynchronous engagements, students' interest, lecture attendance, class participation, academic performance, covid-19 pandemic

Introduction

Moving to virtual teaching and learning during the Covid-19 pandemic did not come without its obstacles. Both lecturers and students confronted difficulties that called for thoughtful solutions. Whether addressing issues related to time management, motivation, or the lack of in-person interaction, many lecturers found themselves in unfamiliar territory as they tried to navigate new ways to meeting their students' needs.

Arguably, traditional classrooms offer more predictable environments with fewer distractions than virtual ones. Within the four walls of a physical classroom, lecturers

regulate where students sit, who enters, and who leaves. This makes it easier for lecturers to create spaces that are most conducive to learning and can best hold students' attention (American University School of Education, 2021). However, the virtual classroom has come to stay. It seems Covid-19 pandemic was a blessing in disguise to the education sector especially to institutions of higher education.

Coronavirus disease 2019; Covid-19 is a dangerous illness that shook the whole world. It affects many people at the same time, and makes life unbearable for them. People who fall ill with Covid-19 experience fever, dry cough,



tiredness, aches, pains, sore throat, diarrhoea, loss of taste or smell, rash on skin, or discoloration of fingers or toes. Its fast spread caused a lot of havoc in the education sector. This made many institutions of learning to have a rethink of their mode of service delivery.

Godfrey Okoye University Enugu, Nigeria was not left out. As a result of the pandemic, the university made its learning management system – the virtual classroom more effective. This bold step enabled the university to continue with its academic programmes uninterrupted. This is because lecturers and students embraced online teaching and learning with ease. Moving away from the traditional/conventional classroom to virtual classroom created a lot of responsibilities on the lecturer and the students. Guiding the students to participate actively in the virtual classroom was the duty of the lecturer. It is worthy to note that a virtual classroom is an online learning environment that is web-based and accessed through a portal or software-based, and requires a downloadable executable file (Xanthoula, 2015). Just like in a traditional/conventional classroom, a student in a virtual classroom participates in synchronous instruction, which means that the lecturer and students are logged into the virtual learning environment at the same time. Therefore, the ability to create varieties of online activities that could sustain the interest of the learners in class is key. This calls for collaborative pedagogical approach so as to enhance students' academic performance.

Collaboration is a philosophy of interaction and personal lifestyle where individuals are responsible for their actions, including learning and respect the abilities and contributions of their peers. Here, there is persuasive evidence that cooperative teams achieve at higher levels of thought and retain information longer than learners who work quietly as individuals (Xanthoula, 2015). Collaborative pedagogical approach then, is an art in teaching and learning where learners are given the opportunity to work together as a group, and to come up with ways of solving educational problems. The full engagement of students with variety of activities enables them to work effectively as a group. Collaborative pedagogical approach is learner-centred and learner-driven (Zhou, Chen, & Chen, 2019). Here, the learner is the driver. This approach arguably increases team

cohesiveness, sense of teamwork in learners, fosters the development of communication capabilities, develops active learning capability in the learners, creative awareness, and most importantly, develops creative problem solving in the learners. All these attributes are geared towards academic performance of the learner.

Academic performance defines an institution of learning. Schools' abilities are often measured by the academic performance of their learners in a standardised examination for example. Therefore, learners' academic performance serves as a bedrock for knowledge acquisition and the development of skills, positive attitudes and values for the formation of the heart and the transformation of the society (Osuji & Oluoch-Suleh, 2017). Many stakeholders in education: parents, teachers, ministry of education, students, just to mention a few, measure the knowledge, skills, values, and positive attitudes acquired by students in terms of their academic performance. For the sake of this paper, class attendance, assignments, mid-semester examination, and end of semester examination determined the academic performance of the students in EDU 421: Curriculum and Instruction II. Therefore, the active participation of the students in the activities of the virtual class earned them positive learning outcomes – high academic performance.

The contributions of collaborative pedagogical approaches in the post covid-19 pandemic world cannot be downplayed. Shared learning gives students an opportunity to engage in discussion, take responsibility for their own learning, and thus become critical thinkers. Proponents of collaborative learning and pedagogy claim that the active exchange of ideas within small groups not only increases interest among the participants but also promotes critical thinking (Xanthoula, 2015). In this era where blended learning system is mostly accepted especially in Godfrey Okoye University Enugu, Nigeria, the effective utilization of varied virtual classroom platforms is beneficial to students' academic performance. The learning management system of the university, Google classroom, Zoom, Skype, Google Meet, Microsoft teams, Edmodo, and VEDAMO are mostly used for the virtual teaching and learning.

Sustaining Virtual Class Participation of Students



Class participation is essential to students' performance in class. Attendance to lectures is one thing, then engaging students to participate actively in class is another. Therefore, the sustenance of virtual class participation of students in any lecture requires commitment on the part of the lecturer. Here, the lecturer needs to utilize varied virtual class activities in order to sustain the interest of the students in the class.

In every classroom for example, when questions are posed, there are students who always raise their hands to answer the questions, while some also hesitate to raise their hands. Even if they have a challenge or difficulty in the class, they find it extremely difficult to ask questions. If lecturers have been encountering this in the traditional/conventional classroom, then what happens to the virtual classroom? The challenges of getting students to participate actively during lectures have intensified in virtual classes (Minero, 2020). Many a time, students are being distracted by what they see around their environs during lectures. Some may log in to the learning management system and engage in another activity while lectures are going on, while some also concentrate on the lectures. Students who are easily distracted in the virtual class need personal support, and scaffolding in order to sustain their interest in class.

To sustain students' interest for the class, encourage group interaction. At the beginning of the lecture, there is need to show the students where to find the 'raise hand button' and explain to them that they can use it to signal that they would like you to give them the floor. This will help them to express an opinion and share information at any time during the lecture. As earlier noted, during the lecture, encourage group interaction. As a rule, interaction has to take place at every 3-5minutes. This rule of course, can be modified according to your working style and specific topic (Racheva, 2017). As a lecturer, in virtual class, there is need to make use of the students' distribution into small groups by taking into consideration their competences and experience. This is especially handy when it comes to implementing brainstorming, role play, and solving of complex problems.

Just as with physical class, it can be a challenge to get students to participate actively in class activities and discussions in a virtual class. Some relevant studies looked

specifically at the factors affecting students' levels of participation in a virtual class. A study by Blau and Black (2012) suggests that students have a greater interest in participating if sensitive topics are discussed. It is worthy to note that every topic can arouse and sustain the interest of the student if actually the lecturer adopts the best approach. When a lecturer uses stimulated and structured discussions, it results in fuller participation and development of higher-level thinking skills in the students (Allen & Seaman, 2013).

That notwithstanding, the personality of the students also plays a major role in their sustained participation in a virtual class. Introverts and extroverts participate differently in class. The extroverts will like to raise their virtual hands icon to join in the discussion, while the introverts would prefer a text chat over a voice chat. Leshea (2013) confirmed this assertion by emphasising that introverts preferred a more private form of communication such as text chat, whereas extroverts are more readily to participate in more revealing forms of communication. Therefore, the need to assess the personalities of the students at the beginning of the class is of paramount importance. This would enable the lecturer to ascertain the pace of the virtual class.

In a virtual class the lecturer has a crucial responsibility in students' knowledge construction to scaffold the active learning process for them. It is critically important that lecturers organize virtual interactions that are effectively structured to benefit students' learning. Supporting this, Batts, Pagliari, Mallett, and McFadden (2010) found that active learning is correlated with better learning outcomes. That the students who were more engaged in active learning through online discussions had higher course grades than those who were less engaged. Just as with physical classes, the levels of student participation are crucial to the success of the student; therefore, it is imperative that lecturers who adopt virtual classrooms find ways to encourage and maintain active participation of students in class. It is important to note that constant icebreaker games such as video clips, audio, images, and storytelling help to sustain the interest of students in a virtual classroom. Generally, presentations that contain only blocks of texts are boring. Therefore, in order to keep



students' attention on the screen, use trailers, animations, music, polls, and other forms of media to make the class feel more dynamic (Blintt, 2021).

Utilization of Synchronous and Asynchronous Collaborative Teaching and Learning Styles in EDU 421; Curriculum and Instruction II Virtual Classroom in the Post Covid-19 Pandemic World

Synchronous and asynchronous engagements were key to sustaining students' interest and active participation in class for enhance academic performance. Synchronous engagement is simply classes that run in real time, where students and the lecturer attend from their different locations. For example, in the lecture timetable, EDU 421; Curriculum and Instruction II was slated for 8am to 10am on Mondays. Therefore, students and their lecturers were engaged in academic exercise at the same time during this two-hour period. In the asynchronous class, students access virtual lecture materials at their own time and from their different locations. They also submit their assignments and discussion forums. It really runs on a more relaxed schedule.

How did the lecturers approach EDU 421? The lecturers adopted the synchronous and asynchronous teaching and learning process. They made the students to collaborate fully for enhanced learning outcomes. The lecturers blended synchronous and asynchronous styles and ensured that students are prepared for their lecture ahead of time. They assigned activities to the students prior to each day's lecture. This made them to be more focused and provide deeper engagement and discussion. In asynchronous way, they granted them access to reading materials from the learning management system, and gave them tasks on the uploaded YouTube videos, quizzes, News, survey and forms, opinion polls, just to mention a few to arouse their interest for the lecture and for group discussion, and allowed them to post their discussion on the discussion forum. The summary of the discussions was often used to introduce the topic of the day.

Furthermore, the lecturers created collaborative opportunities for the students. It is worthy to note again that students who are self-motivated and work well collaboratively with their peers, enable themselves to achieve their very best (Barrett, 2010). The lecturers provided the students with both synchronous and

asynchronous opportunities. Synchronously, the virtual collaboration allowed students and their lecturers to combine their intellectual effort at the same time via video conferencing platforms. The university virtual classroom, zoom, skype, and google classroom were frequently used. The students cherished the togetherness; thinking on the spot, and contributing during that moment in time. Asynchronously, the students had their collaborative contributions through forum posts after accessing the reading materials and activities uploaded on their learning management system. The Collab Docs on the learning management system enabled the students to collaborate in real-time and also post their thoughts as and when they wished through the Forum option.

In the synchronous and asynchronous teaching and learning styles also, the lecturers employed differentiation strategies in the EDU 421 class. Differentiation is all about identifying the slow learners and the fast learners and bridging the gap by deploying means that can help them learn effectively. Leshea (2013) opines that differentiation is the practice of tailoring learning to the individual needs of a student, or group of students. The lecturers of EDU 421 offered students multiple means of representation, action and expression, and engagement. In the synchronous class, the lecturers often shared the PowerPoint presentation with the students. They also shared the screen fully in presenting some video clips for the lecture. After, they opened the interactive forum where every student was able to contribute freely to the topic of the day. Therefore, classroom activities were tailored to the needs of the students. This is because the lecturers provided the students with every opportunity to contribution to ideas, class discussion and problem solving. Students had equitable access to resources and participation opportunities synchronously and asynchronously.

Students' Academic Performance in EDU 421: Curriculum and Instruction II

Godfrey Okoye University Enugu, Nigeria recorded successes in virtual teaching and learning as a result of covid-19 pandemic. The question now is; why virtual again in the post covid-19 pandemic world? The covid-19 opened the eyes of many institutions of learning that the education sector needed to go beyond the



traditional/conventional classroom. It made stakeholders in the education sector to appreciate studying from one's comfort zone adopting the virtual classroom. It also encouraged independent learning and self-reliance. Following the signs of the time, the lecturers of EDU 421 also were encouraged to teach using the virtual classroom. EDU 421: Curriculum and Instruction is a core course for all the 4th year undergraduate students of the Faculty of Education of Godfrey Okoye University, Enugu, Nigeria. The lecturers used four major areas to judge the academic performance of students in the course. The areas were class attendance, assignments, mid-semester examination, and

end of semester examination. Lectures were on Mondays 8am-10am during the first semester of 2021/2022 academic session. These were the main topics the lecturers covered in the course: Curriculum and national goals, Selection of curriculum aims, goals, and objectives, Selection of content and learning experiences, Organisation of content and learning experiences, Curriculum instructional methods, Learning materials and media of instruction, Curriculum evaluation, and Curriculum innovation. The lecturers and the students worked on these topics for 14 weeks. The performance of the students is presented as follows:

Table 1

Students' Result on EDU 421: Curriculum and Instruction II 2021/2022 Academic Session

S/ N	REG. NO	Att.	Ass.	Mid	CA	Exam	Total	Grade
		5%	10%	15%	30%	70%	100%	
1	U20/ELS/269	5	6	9	20	43	63	B
2	U20/ELS/267	5	7	8	20	40	60	B
3	U20/ELS/270	4	5	7	16	52	68	B
4	U20/ELS/023	4	5	10	19	54	73	A
5	U20/ELS/268	5	5	7	17	44	61	B
6	U18/ELS/070	3	6	9	18	51	69	B
7	U20/ELS/217	3	5	7	15	50	65	B
8	U20/BIO/026	2	5	8	15	53	68	B
9	U20/BIO/270	5	6	9	20	54	74	A
10	U20/BIO/268	4	7	8	19	52	71	A
11	U20/BIO/023	3	5	8	16	51	67	B
12	U19/BIO/242	3	7	9	19	43	62	B
13	U20/BIO/274	5	6	7	18	50	68	B
14	U20/BIO/024	3	6	-	09	52	61	B
15	U20/BIO/025	4	7	6	17	48	65	B
16	U20/BIO/262	3	6	6	15	48	63	B
17	U20/BIO/271	5	5	8	18	47	65	B
18	U20/POL/023	5	8	9	22	43	65	B
19	U20/POL/272	3	5	7	15	41	56	C
20	U18/POL/053	4	-	6	10	52	62	B
21	U18/POL/055	4	5	7	16	59	75	A
22	U18/POL/057	3	-	6	09	52	61	B
23	U19/POL/121	1	5	7	13	26	39	F
24	U20/PHY/023	3	5	8	16	51	67	B
25	U18/POL/052	4	5	8	17	51	68	B



Sl. No.	Course Code	Attendance	Assignments	Mid-Semester Exam	End of Semester Exam	Total	Grade	Percentage
26	U18/CHM/011	5	7	6	18	45	B	Table 2 Summary of Students' Results on EDU 421
27	U20/MAT/267	4	5	7	16	34	C	
28	U20/CSE/026	3	6	-	09	36	D	
29	U18/CSE/016	4	7	7	18	47	B	
30	U20/CSE/023	4	5	7	16	50	B	
31	U20/CSE/028	4	7	6	17	48	B	
32	U20/CSE/025	3	7	-	10	35	D	
33	U20/CSE/027	2	6	3	08	30	F	
34	U19/CSE/252	3	6	7	16	-	F	
35	U20/ECO/024	4	6	7	17	50	B	
36	U20/ECO/274	5	6	6	17	45	B	70-100% 60-69% 50-59% 45-49% 0- 44%
37	U19/ECO/240	5	6	8	19	51	A	
38	U20/ECO/268	5	5	6	16	46	B	
39	U18/ECO/060	3	5	9	17	50	B	
40	U20/BED/268	5	5	7	17	32	D	
41	U18/BED/037	4	5	6	15	48	B	
42	U20/BED/265	4	5	6	15	52	B	
43	U20/BED/261	4	6	7	17	54	A	
44	U20/BED/024	5	6	6	17	42	C	
45	U20/BED/023	4	6	6	16	45	B	
46	U20/BED/025	5	5	6	16	60	A	
47	U20/BED/027	5	6	6	17	41	C	
48	U20/BED/274	4	7	7	18	41	C	
49	U20/BED/264	4	7	7	18	32	C	
50	U18/BED/033	4	7	10	21	41	B	

From the results on Table 1 and summarized on Table 2, it is evident that virtual class participation yielded to positive learning outcomes of students. The collaborative pedagogical approach that the lecturers adopted made it possible for the huge academic success recorded. Out of the 50 students that registered for the course, only 3 failed. These students that failed did not participate in one of the key areas being measured such as attendance, assignments, mid-semester examination, and end of semester examination. This shows the relevance of class participation, and supports the argument of Duncan, Kenworthy, and McNamara (2012), that the quantity of participation in an online environment is related to improved examination performance.

This is in agreement with the assertion of Bekkering and Ward (2020), who in their study concluded that participation in class, as a product of attendance and attentiveness, may be a valid objective measure to predict students' performance. This is because it can be monitored

underperforming since the data can be recorded automatically in zoom and any other learning management system portal, and analysed with minimal effort in Excel. Most importantly, the collaborative pedagogical approach the lecturers adopted enabled the students to participate actively in class and perform well. This is consistent with the findings of Martin and Bolliger (2018) that active learning strategies are effective ways to engage students and improve their academic outcomes. It also agrees with the findings of Songi, Rice, and Oh (2019) that the frequency and length of course access, the quantity and quality of asynchronous discussion, and the quality and quality of synchronous conversation with a virtual agent were significantly associated with the learner achievement. Therefore, this paper establishes that the collaborative pedagogical approach the lecturers of EDU 421: Curriculum and Instruction II adopted enabled active virtual class participation of students which translated to their enhanced academic performance.



Conclusion

Collaborative pedagogical approach has made it possible for students to participate actively in the virtual class of EDU 421: Curriculum and Instruction II. This eventually translated into their enhanced academic performance. Students' virtual class participation encouraged by collaborative teaching and learning is the important driver of performance in a virtual learning environment. This paper exemplifies it vividly and establishes that quantity and quality of students' participation in a virtual class enhances positive learning outcomes. More so, that engaging students actively in a virtual class increases their academic performance. Furthermore, that a collaborative virtual classroom is a value to students and their lecturers. Therefore, lecturers should always use varied pedagogical approaches in sustaining the interest of the students in class. This enables them to participate actively in class and aids in their improved academic performance.

References

- Allen, E., & Seaman, J. (2013). *Changing course: Ten years of tracking online education in the United States*. Babson Survey Research Group. Retrieved from EBSCOhost
- American University School of Education. (2021). *How to get students' attention: Maintaining interest in the digital classroom*. <https://soeonline.american.edu/blog/how-to-get-students-attention>
- Barrett, B. (2010). Virtual teaching and strategies: Transitioning from teaching traditional classes to online classes. *Contemporary Issues in Education Research*, 3(12), 17-20.
- Batts, D., Pagliari, L., Mallett, W., & McFadden, C. (2010). Training for faculty who teach online. *Community College Enterprise*, 16(2), 21-31.
- Bekkering, E., & Ward, T. (2020). Class participation and student performance: A tale of two courses. *Information Systems Education Journal*, 18 (6), 86-98.
- Blau, I., & Barak, A. (2012). How do personality, synchronous media, and discussion topic affect participation? *Journal of Educational Technology & Society*, 15(2), 12-24.
- Blintt, J. (2021). *Keeping your students engaged in the virtual classroom*. Retrieved from <https://www.literacyworldwide.org/blog/literacy-now/2021/01/29/keeping-your-students-engaged-in-the-virtual-classroom>
- Duncan, K., Kenworthy, A. L., & McNamara, R. (2012). The effect of synchronous and asynchronous participation on students' performance in online accounting courses. *Accounting Education: An International Journal*, 21 (4), 431-449. http://epublications.bond.edu.au/business_pubs/583
- Leshea, A. V. (2013). *The effects of synchronous class sessions on students' academic achievement and levels of satisfaction in an online introduction to computers course* (Unpublished Doctoral dissertation). Liberty University.
- Martin, F. & Bolliger, D. U. (2018). Engagement matters: Student perceptions on the importance of engagement strategies in the online learning environment. *Online Learning* 22(1), 205- 222.
- Minero, E. (2020). *8 Strategies to improve participation in your virtual classroom*. Retrieved from <https://www.edutopia.org/article/8-strategies-improve-participation-your-virtual-classroom>
- Osuji, G. E., & Oluoch-Suleh, E. A. (2017). *Curriculum and sustainable learning: Vade mecum for teacher education*. CUEA Press.
- Racheva, V. (2017). *Tips for improvement of learner's attention in the virtual classroom*. Retrieved from <https://www.vedamo.com/knowledge/improve-learners-attention-in-virtual-classroom/>



Songi, D., Rice, M., & Oh, E. Y. (2019). Participation in online courses and interaction with a virtual agent. *International Review of Research in Open and Distributed Learning*, 20 (1), 44-62.

Xanthoula, A. (2015). *A perspective of a collaborative virtual classroom via Google app engine*. Technological Educational Institute of Crete.

Zhou, X., Chen, L., & Chen, C. (2019). Collaborative learning by teaching: A pedagogy between learner-centred and learner-driven. *Sustainability*, 11(1174), 1-14.