Chapter Fifteen

Impact of VCL on Student Engagement and Learning Outcome

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Introduction

The Pandemic of COVID-19 changed the way teachers and students interact with each other in a virtual collaborative environment to engage with each other. Due to the lockdown, universities and schools were forced to move into the digital space (Vahle et al., 2023). This change was supported by several technologies like Microsoft Teams, Google Scholar, Zoom and many other systems, including a university-tailored Learning Management System (LMS). In most of the universities worldwide, the lectures were converted from their traditional form in the classroom to a virtual environment, pushing both lectures and students to adapt to the new way of interacting with each other. Student engagement in a virtual environment was a challenge at that time and is still a challenge now in virtual collaboration environments and in the classroom. This change was implemented in a truly short time, and all stockholders, including government agencies, had to adapt to the new way of conducting lectures, adapting the laws for education all over the world. Both lecturers and students had to use several technological tools without having a proper training, which affected the quality of the education system and caused confusion in choosing the appropriate software or group of software to perform the lectures, tests, and ongoing student control, including their engagement with the online lecturer and online collaboration methods. The implementation of collaborative learning formats resulting from this transition has been investigated less frequently to date (Kalmar et al., 2022). Nowadays, the situ-

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ation allows the normal learning and interaction between student and teacher in a traditional environment in the classroom, through face-to-face teaching to the students. Still, there is a need to continue evaluating student engagement, not only face-to-face but also in a digital environment where professors and students do not interact physically in a classroom. By promoting the group work that is the main methodology of creating good products, and using the group synergy, user engagement between each other needs to be assessed in detail by trying to address issues and possibilities that digital tools offer. The scope of this study is to identify if the traditional way of student engagement in a traditional teaching environment needs further improvement by implementing the advantages and the flexibility that the technology is offering for virtual collaboration and engagement through technological tools. The conclusions of this study are based on the data produced by two Virtual Collaborative Learning (VCL) projects that are funded by the EU and are implemented by universities located in Albania and outside Albania that continue the project by collaborating with each other.

Student Engagement in Real Projects

During the COVID-19 pandemic period, the methodology of teaching in universities changed dramatically by immediately passing from teaching face to face in the classroom to a virtual collaborative environment that was supported by several software. Chakraborty & Muyia Nafukho (2014) suggest that there are many benefits of online teaching. Each university tried to adapt as soon as possible to this change, putting academic staff and students under pressure. Government bodies tried to facilitate the process by publishing regulations on performing the lectures and exams online during this period. Each university within the country adopted a different type of technology to address the issue of online learning methodology. European University of Tirana, in collaboration with its partners, and with the support of the EU, implemented two virtual collaboration projects in master classes.

The first project involved a master class by dividing the class into two groups with the purpose of making a detailed analysis regarding the performance of each group in the same class and measuring the engagement of the students in a virtual digital environment in comparison with the engagement of their peers in the classroom. In the first group, there were 30 volunteering students who followed the classes and completed their assignments using VCL methodology and tools.

The professors who were involved in this project monitored their engagement using technological tools, mainly from the Microsoft Platform and a locally implemented LMS at the European University of Tirana. The second group of 113 students continue to follow the classes and complete their assignment using traditional methods in the class and by meeting with the teacher.

The second project engaged students from the European University of Tirana who are in master's programs and students from the Business College of Kosovo at the bachelor's level. The students were divided into four mixed groups, and they were given the same assignment. The groups were instructed to use the group synergy and engage with each other to exchange ideas on the project and come up with a digital product that will help the truism in the region. UET students will manage the technical part of the project by providing a digital solution to this assignment, and BC students will contribute by creating a detailed business plan for the project. In the background, the professors were monitoring student engagement in the project to analyse the effect of this way of collaboration in different geographical locations between students from two different countries.

Student Engagement Framework

The purpose of this study is to respond to some questions related to this topic, regarding the student engagement with each other, with the professors and with the project itself. Students' engagement in such an environment, including their performance based on some KPI based on project outcome and technological data logs. The students were instructed to actively engage with the group members by assigning to each member specific roles like project manager, business analyst, business developer, software developer, etc. The main variables analysed by the professors involved in these virtual collaboration projects, with a focus on student engagement, are as follows:

- Student engagement in a virtual learning environment
- Group work, transparency, and productivity are based on the engagement of each group member in their specific role
- Adoption of the new methodology with a focus on student engagement

The first question of this study is 'Did the students who were part of the Pilot VCL engage better in this environment in comparison to

their mates in the same course following the traditional way of engagement?' This question was addressed by assigning to both groups of students the same assignment to fulfil during the 6 weeks of the piloting period. The assignment was to identify at least 4 companies on the website of 'Central Business Centre' that hold publicly available financial data for each registered Albanian company. The students have to analyse this data containing companies' financial statements and prepare an assignment paper up to 1000 words to compare the companies they identified by identifying some economic variables like:

The students who were volunteering for the VCL methodology must collaborate with each other on the LMS platform of the UET University to complete their assignment. Furthermore, they had to perform scheduled and unscheduled meetings on the MS Teams platform to discuss the fulfilment of each task of their assignment by actively engaging with each other based on a schedule that was monitored by the lecturer. All meetings were recorded, and all chat communications in the MS Teams platform and in the LMS system were saved for further analysis. All students participating in this course had to upload their assignments to the LMS platform of the university before the deadline.

During the second project, students were divided into 4 mixed groups based on nationality and study profile. They should deliver a solution to increase tourism in the region by using advanced technology and bringing new ideas to increase the overall visibility of the region abroad. During this assignment, students were asked to form a business structure to create a full project and evaluate the profitability of the project if it were implemented. This helped the professors to evaluate student engagement to fulfil the task by delivering the requested product that was developed using a real project plan and schedule. All online meetings were registered in Teams, and each student's post in the group was evaluated and counted to assess the overall student engagement.

Engagement Measure Methodology

The projects that monitored and evaluated the student engagement involved several ICT Software to support data collection and data analysis for producing results to identify the real student engagement in collaborative systems. Accurate measurement of engagement and collaboration between students and lecturers during group work on a specific project was evaluated by professors and members of the project. Each

Albanian university provided its own data gathered by the system used by them, but we will focus only on UET and BC to evaluate students' engagement in a virtual collaboration environment. This data was analysed in this chapter to draw conclusions based on real data to analyse the student engagement in a virtual collaboration in this environment.

The methodology used in the evaluation of the data is both qualitative and quantitative because it analyses unstructured data like conversations, emails, calls, or other unstructured data, and also it analyses the volume of interaction, like the number of messages exchanged between students in a group, email exchange, LMS logs, etc.

There were several indicators that were analysed during the project's implementation, including academic staff, students, and e-tutors. The geographical location has given more strength for an accurate data analysis in a virtual learning collaboration environment that gathered students and academics from several locations into a single virtual working place.

During the implementation of these projects, there were some barriers taken into consideration for fully evaluating the outcome of student engagement participating in these projects. The government law does not allow the students to follow lectures online. By doing so, it was impossible to fully implement student engagement in a fully virtual collaboration environment. There was no possibility to incentivise the student with more than 2 credits for their completion of the project because of these constraints.

Student Engagement Data Analyses

Due to regulations imposed by the Ministry of Education (Ministria e Arsimit, Sportit dhe Rinise, 2020), the VCL projects were tailored in a specific format to respect the regulations for higher education institutions and to give the possibility to volunteer students to perform some of their activities in a virtual collaboration environment. Student engagement is a multidimensional concept, and it has a positive impact on performance (Afzal & Crawford, 2022). The volunteering group of students that engaged in the piloting of local VCL at the European University of Tirana had 50 members from a total of 127 students, and they were evaluated with 20% of the total evaluation for the fulfilment of the assignment in a virtual learning collaboration environment. Two professors were involved for the second half of the semester to monitor and evaluate student engagement in a virtual collaboration environment.

The evaluation of the outcome of the VCL course and student performance was made using mixed tools. The student activities and collaboration were made using technological tools as UET LMS System, Miro Board and MS Teams. The user expectations were analysed through surveys that were also produced using technological tools like Microsoft Forms.

Results of the Projects

Based on the student record 80% of the students were full-time employed and found the online engagement time-saving and easier to adapt to their schedule to fulfil the assignment.

None of them had prior experience with the VCL course (except for the online classes during the Pandemic) that were forced to be followed due to the lockdown situation. They were constantly supported and motivated to actively engage with each other in the group by the professors. Technical assistance was given to the students to maximise their engagement using the technology that was suggested.

Students perceived virtual engagement as a good methodology that was helpful for them and gave them additional help in increasing their performance during the project fulfilment by allowing them to engage with each other and professors in a suitable and easy way.

Half of the students think that this way of engagement strengthens the relationship between each other in a group team and also strengthens the engagement with the teacher during the project. This indicates that the students perceived the relationship between them and the teachers as a direct approach that can be strengthened through physical class participation.

Almost 80% of the students participating in the project found this

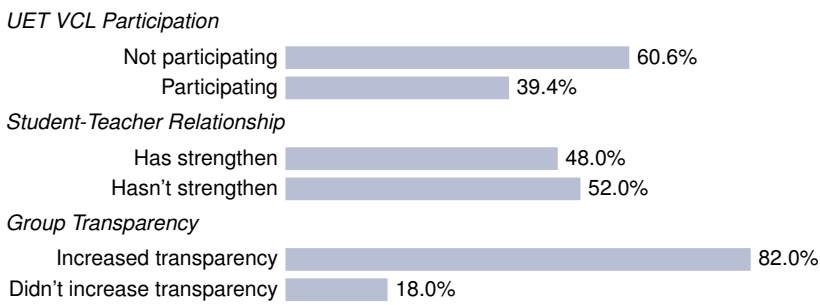

FIGURE 15.1 Assessment of Student Projects

method of engagement a valuable methodology that increases the group work, task management and increases the overall workgroup transparency. The professors had the possibility to really evaluate each member of the group engagement individually based on their real contribution to the project.

All projects were delivered successfully, and the students were more engaged in the group during the presentation by presenting part of the project in the group.

Conclusion and Discussion

During the analysis of KPIS for student engagement, we have noticed that most of the participating students were more motivated and perceived this methodology as an advantage to better engage in a virtual digital environment using advanced technological collaboration tools. Most of the participants already had a part-time or after-school job, so somehow this result was also affected by this important fact.

During the evaluation of both groups, it was noticed that the group of students that was part of the second project in an international environment were more motivated to engage with each other. We can attribute this to the internationalisation of putting more effort into fulfilling the project objectives. A more thorough study has to be performed to really evaluate this result because only half of the semester and 20% of the course evaluation cannot give the full picture of the results.

Albanian law did not give the full possibility to implement a full VCL course in a given subject during a full semester. This has decreased the possibility of incentivising the participating students to put all their efforts into engaging using the new methodology in a fully virtual collaborative environment.

To have a better understanding of how VCL engagement between students, teachers and other stakeholders is, more VCL piloting is needed in an international environment. To fully evaluate the impact of this methodology of virtual student engagement in universities, changes in education law are needed in Albania to support this kind of learning as an official methodology.

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