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DIGITAL SKILLS AND RESEARCH METHODS

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1. Introduction

The virtual learning environment refers to a web-based learning system that facilitates academic learning with the help of digital communication and materials. Virtual learning was introduced to modern academic institutions in the 1990s. The research will conduct primary research and secondary research to examine the impact of the virtual learning environment on students. The research will provide methodological considerations and will analyse the collected data to conclude the research topic.

The research aims:

- To understand the impact of Virtual Learning Environment (VLE) on the learning capability and process of academic students.

The research objectives are:

- To review the literature on the impact of virtual learning environments on students.
- To examine the impact of VLE on students in the University of Wales Trinity Saint David London Campus.
- To conduct primary and secondary research on the topic analysing the effectiveness or limitation of VLE on students and their academic learning capability.

2. Literature Review

The concept of the Virtual Learning Environment originated in the UK in 1973 through the National Development Program. After the introduction of the internet, the mode of virtual learning gained momentum (Boboc and Koc, 2018). Countries like the USA, India, China, South Korea, and the UK use this platform most. The emergence of Covid-19 in 2019 caused most of the top global universities to shift to online platforms to maintain social distance (Peeters and Pretorius, 2020). From 2021-18, 21% of Public schools and 13% of private schools operate virtually, which

has increased in the pandemic situation (Wang, 2018). The overall market size of virtual learning is estimated to grow by £260 billion by 2025. According to Becnel (2019), several universities are launching their learning app, video conferencing tools to reach the students.

3. Methodology

The researcher will consider appropriate methods to conduct the research and produce credible research. The researcher will consider positivism philosophy so that the research process can be built up upon constructive progress and analysis. The researcher will consider the deductive research approach and descriptive design so that the collected data can be deduced descriptively and the deduced data can be used in the descriptive analysis process (Gregory and Wood, 2018). The researcher will use primary and secondary research to collect sufficient and comparable data. The researcher will provide a survey questionnaire to 20 participants chosen by the random sampling method. The researcher will then share the survey link with all participants. The researcher will ensure the anonymity of participants to avoid any kind of data breaching or internal consequences.

4. Research and Analysis

4.1 Data Collection

4.1.1 Primary Data Collection

Question 1	Do you think that the Virtual Learning Environment is positively influencing the University of Wales Trinity Saint David London Campus?			
	Feedback Tone	Yes	Maybe	No

Feedback	Feedback	12	6	2
	Feedback Percentage (%)	60	30	10

Table 1: Response of Question 1

(Source: Author)

Question 2	Do you think that the online classes are sufficient to communicate with teachers?			
Feedback	Feedback Tone	Yes	Maybe	No
	Feedback	8	6	6
	Feedback Percentage (%)	40	30	30

Table 2: Response of Question 2

(Source: Author)

Question 3	Do you think that VLE limits chances to clear out confusions regarding any academic topic?			
Feedback	Feedback Tone	Yes	Maybe	No
	Feedback	8	4	8
	Feedback Percentage (%)	40	20	40

Table 3: Response of Question 3

(Source: Author)

Question 4	Do you think that the teaching quality has improved in the Virtual Learning Environment?			
Feedback	Feedback Tone	Yes	Maybe	No
	Feedback	12	4	4
	Feedback Percentage (%)	60	20	20

Table 4: Response of Question 4

(Source: Author)

Question 5	Do you think that VLE is more compatible for effective learning?			
Feedback	Feedback Tone	Yes	Maybe	No
	Feedback	10	8	2
	Feedback Percentage (%)	50	40	10

Table 5: Response of Question 5

(Source: Author)

Question 6	Do you think that the University infrastructure is capable of continuing this VLE process as a long term solution?			
	Feedback Tone	Yes	Maybe	No

Feedback	Feedback	10	6	4
	Feedback Percentage (%)	50	30	20

Table 6: Response of Question 6

(Source: Author)

Question 7	Do you have any preference in terms of improving the current Virtual Learning Environment (VLE) in University of Wales Trinity Saint David London Campus?
Feedback	No
	More communication process
	Add new digital learning experiences
	Implementing the AI process in daily attendance, assignment submission and MCQ checking process.
	Creating a personalised portal for students to join open lectures and extra classes.
	Arranging interactive academic sessions with simulation software support.
	Associating with open source VLE portal to facilitate 3D materials and interactive simulation experience in every study topic.
	Arranging more staff to handle co curricular classes for group projects.

	Simulation process with virtual diagrams.
	Teamworking session for only students.

Table 7: Response of Question 7

(Source: Author)

Question 8

In your opinion, what is the most beneficial aspect of VLE?

Feedback	Presence and contribution of each Candidate
	Flexibility
	Develop technical skills
	The most beneficial aspect of a virtual learning environment is the instant accessibility of study materials.
	Flexibility of browsing multiple study materials and pointing that out to the teacher.
	Separately understand and communicate with peers to initiate and conduct group discussion.
	The most beneficial aspect is the attendance compatibility in the post-pandemic situation.
	Instant material distribution and availability of visual aid.

Feedback

The teacher can give attention to everyone equally for the notification process and separate screening

Compatibility of joining and attending classes from anywhere.

Table 8: Response of Question 8

(Source: Author)

Question 9	Do you think that face-to-face learning needs to be brought back for improved academic learning?			
Feedback	Feedback Tone	Yes	Maybe	No
	Feedback	12	6	2
	Feedback Percentage (%)	60	30	10

Table 9: Response of Question 9

(Source: Author)

Question 10	Do you think that interactive studies can be facilitated in VLE with virtual materials or applications?			
Feedback	Feedback Tone	Yes	Maybe	No
	Feedback	12	4	4
	Feedback Percentage (%)	60	20	20

Table 10: Response of Question 10

(Source: Author)

4.1.2 Secondary Data Collection

University of Wales Trinity Saint David London Campus (UWTSD) has a long history of offering distance education, but the virtual learning program is different. According to Russell (2020), making the particular environment of virtual learning at each student's home is impossible but providing quality lectures and mode of education are important. The university ranks 1st in the UK for courses & Lectures. They have evolved during the pandemic to reach over 12000 students worldwide (Johansson and Lindberg, 2019).

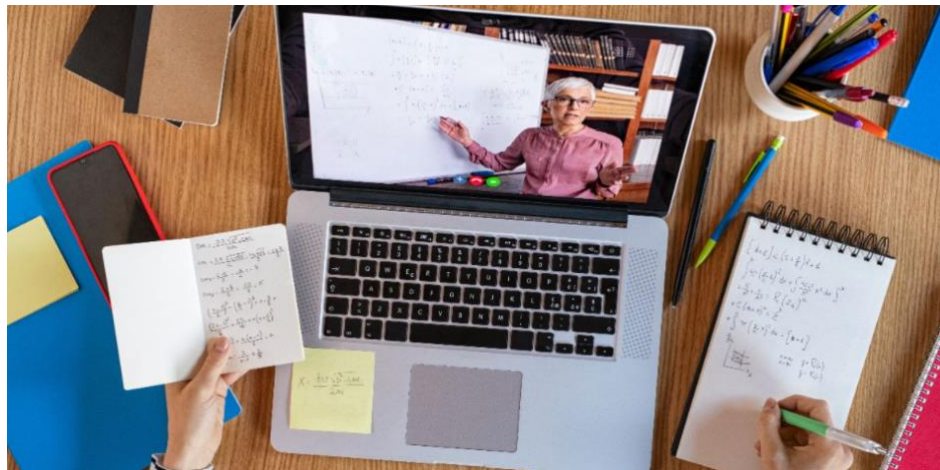


Figure 1: Virtual Learning in the Post-pandemic Situation

(Source: UWTSD, 2019)

The UWTSD ranks at 2nd position in the UK for Satisfaction of Feedback. Students like Alison Chester, Andrew Oberge, etc. are very happy as they are getting an opportunity of learning their favorite subjects virtually (Massler, 2020). According to Paulus and Wise (2019), they are working hard with the Welsh Government to protect the students when they return to college. They spent

most of their funding to provide high-quality virtual learning. The Covid-19 has impacted nearly 95% of the confidence level of the students so UWTSD's teaching staff should be more careful about providing an additional resource to students (UWTSD, 2019).

4.2 Data Analysis

4.2.1 Primary Data Analysis

Question 1

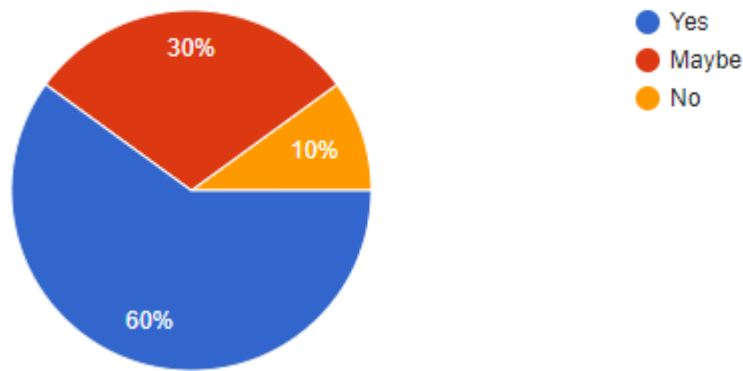


Figure 2: Graphical Representation of Question 1

(Source: Author)

Most of the students agree with the positive influence of VLE on the campus. Among them, only 30% of the students are unsure about the impact. The mode of online learning has affected the students positively with flexible learning time from different parts of the world.

Question 2

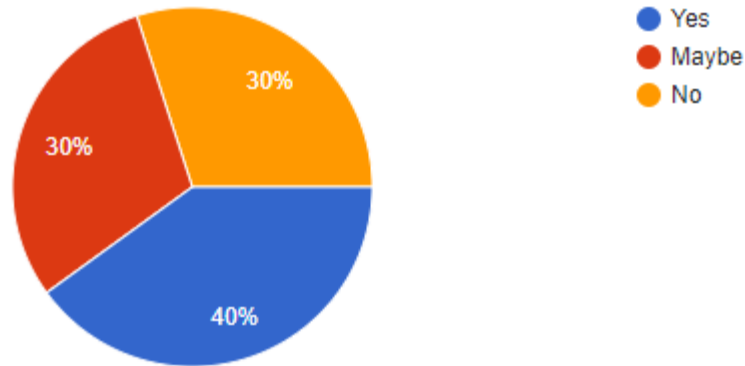


Figure 3: Graphical Representation of Question 2

(Source: Author)

Less than half of the students consider that the online mode of teaching is sufficient to communicate with each other, others disagree with it. The university should launch its tools where students feel free to communicate with their teachers, reducing the communication gap in the pandemic situation.

Question 3

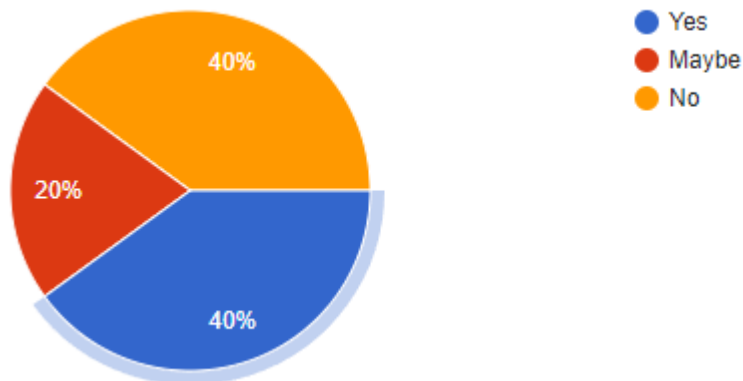


Figure 4: Graphical Representation of Question 3

(Source: Author)

Here is a contradiction because the same percentage of the students agree and disagree that virtual learning can clear out the confusion. UWTSD should exercise the surveys and Weekly Doubt-clearing sessions to know the reason for the disagreement of the students.

Question 4

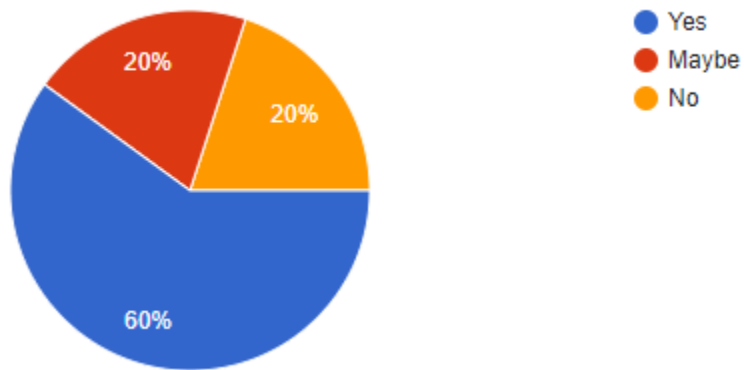


Figure 5: Graphical Representation of Question 4

(Source: Author)

60% of the students think that the teaching quality of the teachers has enhanced but 20% of the students disagree with it whereas 20% are unsure about it. It means teachers are trying their best to teach students when they are not present in front of the teachers.

Question 5

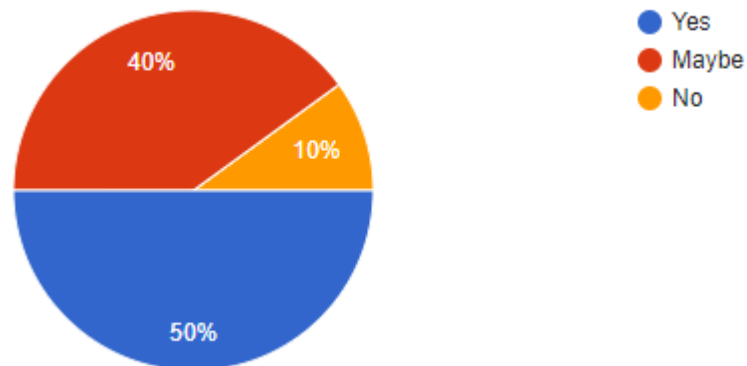
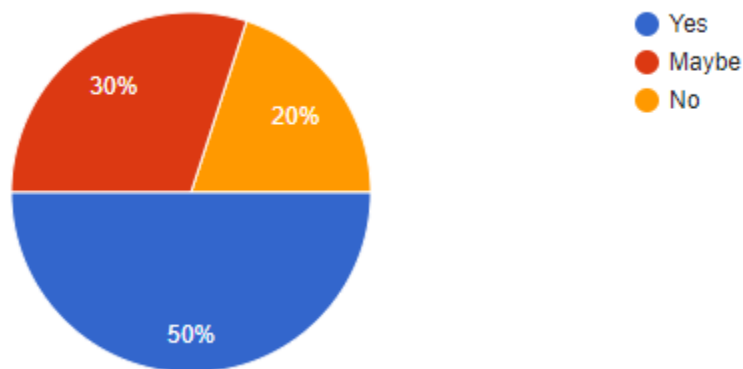


Figure 6: Graphical Representation of Question 5

(Source: Author)

Some less than half of the percentage of the students do not consider the VLE as an effective mode of learning. As they don't consider that, the rate of dropout will increase among those students. Personal interactions with those students to understand their problems could be proven an effective way to overcome this.

Question 6**Figure 7: Graphical Representation of Question 6**

(Source: Author)

Exactly half of the students agree with the capability of the university's infrastructure to teach the students. UWTSD is continuing its virtual mode of teaching far before the pandemic situation through a distance mode of learning. Some students are reluctant to agree that the VLE could be effective in the long term.

Question 7

The pupils have their suggestions about how to improve the VLE such as implementing the AI process, MCQ sessions, regular assignments, creating a personal portal, etc. Most of them want

interactive sessions with the support of software, teamwork, and more prominently indulgence of the technology.

Question 8

The students gave their feedback regarding the beneficial aspects of the VLE. According to them, instant and flexible access to the various study materials is most beneficial. It is impossible for the students to buy every book and accessing the library is time-bound also, so they prefer this one most. Attendance compatibility is another important aspect.

Question 9

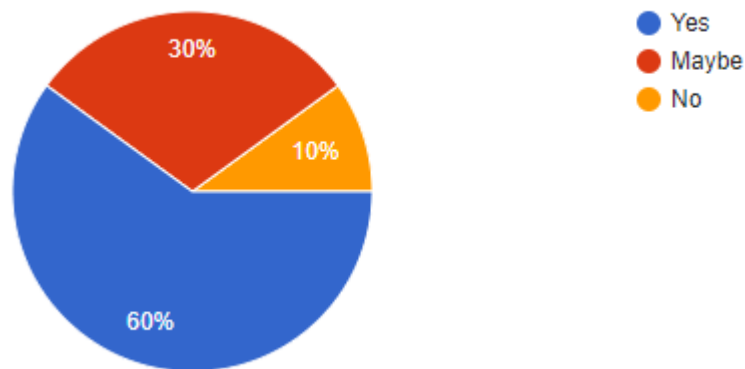


Figure 8: Graphical Representation of Question 9

(Source: Author)

The primary survey shows that the students of UWTSD strongly want back their offline mode of learning. They consider face-to-face learning is more effective thus the emotional attachment would be stronger between teachers and students.

Question 10

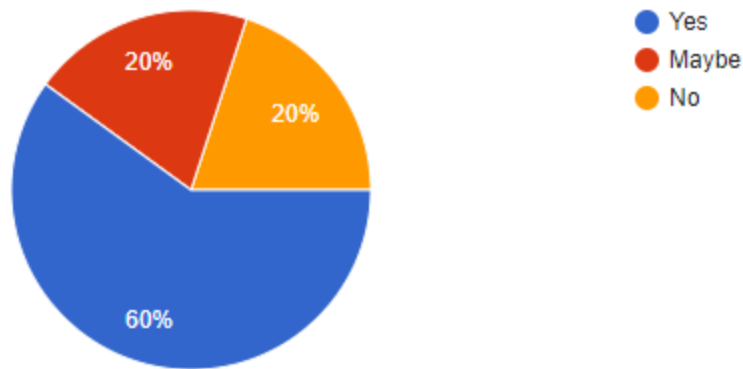


Figure 9: Graphical Representation of Question 10

(Source: Author)

The pupils want more tools through which they can participate in interactive learning sessions. This is the reason that 60% of students voted for it. So, the university needs to increase its sessions with the students so that the students could actively participate in those sessions.

4.2.2 Secondary Data Analysis

The data postulates that the impact of learning in VLE is significant as the entire infrastructure, communication process, teacher-student interaction, peer networking, execution of topics and availability of visual aids (Harasim, 2017). According to the collected data, the university has become capable of handling its massive student base of 12,000 students. This indicates that the teachers' adaptability of IT skills is becoming more and more convenient (Ito et al., 2018).

The university is holding a prestigious position in the review ranking from students and teachers. This indicates that the compatibility and regularity of classes are ensuring student engagement and consistent learning (Darby and Lang, 2019). According to MacDonald (2017), the pandemic situation has radically minimised socialisation which has affected the mental satisfaction of students. Since the pandemic has significantly increased student stress, it is important for the

university to impose new classes for only group discussion or other entertainment so that students can bond with each other. This can increase their interest in the Virtual Learning Environment in the university (Riazi, 2017).

5. Conclusion

The virtual learning environment is not a very old concept in the academic sector. The implication of an online portal as an academic learning opportunity, platform and communication tool was available for a significant amount of time. The process has become inhibitory after the 2020 global pandemic. The University of Wales Trinity Saint David London Campus is one of the most profound universities that has implemented the VLE Moodle in its online classes. The study encapsulates primary and secondary research along with corresponding analysis to demonstrate the impact of VLE on the students in the university. The researcher has further mentioned some improvement ideas in the analysis part.

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