

DIGITAL SKILLS AND RESEARCH METHODS

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IMPACT OF VIRTUAL LEARNING ENVIRONMENT

EXECUTIVE SUMMARY

Given below is a research report demonstrating the impacts of Virtual Learning Environment (VLE), using both the primary and secondary data for analysis and evaluation. The secondary data is collected from a wide range of academic resources and the knowledge developed will be used to evaluate the primary data, through a questionnaire survey.

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INTRODUCTION

Virtual learning is a way of learning through computers and/or internet. Such learning facilitates easy access to quality information and interactive sessions of learning, which can be availed by anyone at both inside and outside the learning institution (Wolff et al. 2013). With the evolution of technologies, virtual learning has emerged as an effective and interactive way of learning, which can be very useful for those who lack access to proper educational institutions. The significance of virtual learning is also realized after the Covid-19 Lockdown, due to which schools, colleges and universities were closed and students have to continue their classroom learning from home (Pererva et al. 2020). The research below will attempt to determine the impact of the virtual learning environment (VLE) through both primary and secondary data, which will be analysed through a predetermined method, and present some vital recommendations for the same. The secondary data will help in developing a critical understanding of the topic, based on which the primary data will be analysed.

RATIONALE

Xu et al. (2014) define VLE as an online classroom which provides students with a digital space where the organizer can organize e-learning courses and can be easily accessed by anyone who has the authority to that information and a device with internet such as a smartphone or computer. VLE has a range of benefits for both the tutor as well as the learner (Boulton et al. 2018). Students can initiate self-paced learning through VLE and learn new knowledge and skills without actually travelling to educational institutions. It also allows easy assessment of the performance or progress report, which gives more robust insights for further developing their skills more effectively. As for the teachers, VLE allows them to set training courses or lessons without attending them face to face and establishes easier management of their learning and assessment of their performance (Xu et al. 2014). Digital copy can be accessed any time and therefore they don't have to manage loads of papers and student information, which makes VLE far more convenient. During Covid-19 lockdown all around the world, the VLE has significantly benefited the students by allowing them to attend classes through VLE and continue with their studies without travelling to their institutions (Bogusevski et al. 2020). Hence, VLE has a great scope and looking at the fact that currently, it is still in its initial phase, it is important to determine the impacts of VLE. Thus, this research has a great significance to understand its impacts in current applications as well as in future.

AIMS AND OBJECTIVES

This research aims to determine the impacts of Virtual Learning Environment in modern educational institutions and derive ways to tackle the current challenges to make VLE more effective.

The objectives are:

- What is the role of VLE in modern educational institutions?
- What are the effects of VLE on the learner and the tutor?
- What is the current trend and future projections, regarding the use of VLE in the modern classroom?

LITERATURE REVIEW

Historical background:

The UK's Open University has been using digital devices for learning since the 1970s, but the VLE 'Blackboard' with commercial computers was patented in 2000 (Bogler et al. 2013). The blackboard software had around 3700 educational institutions by the end of 2010, in around 60 nations around the world. In 2001, the VLE introduced 'Moodle', which was made for helping the tutors to create courses online and facilitate collaboration and interaction to construct contents (Vuopala et al. 2016). Moodle quickly gained popularity and by the end of 2011, it has users from 213 countries, in more than 75 languages and 49,367 active sites. In 2008-9, 92% of the colleges included a virtual learning environment, as compared to 58% in 2003-4 (Makransky et al. 2016).

Positive impacts of VLEs

As studied by Barker and Gossman (2013) and supported by the findings of Mogus et al. (2012), using VLE allows the upper-grade elementary students to access education and maintain effective communication online through a software collaboration tool. It allows the teachers to use tools of evaluation which also makes their workload easy. As per the studies conducted by Hwang and Hu (2013), using VLE significant advantages in terms of quality and speed of learning, language and vocabulary and track their performance and progress through tools provided by VLEs. In support to this, Mkrttchian et al. (2014) also suggested that VLE effectively enhances the student's reflection and promote independent and progressive thinking, along with enhancing their digital skills which are beneficial for their career ahead.

Negative impacts

According to Stichter et al. (2014), VLEs lacks in social interaction between two individual physically, which restricts the inclusion of direct communication and emotional interaction. Also, it is not effective enough for those who lack-management skills, as in VLE learning, the students are not much under the surveillance of teachers and hence this affects their performance in a negative way. According to Hew and Kadir (2016), attending classes physically helps children to learn discipline and punctuality, which is something VLEs can't provide or help with. However, Cheng et al. (2012) suggested that this also helps their students to learn self-management and time-management skills, which helps in current learning as well as in their futures.

METHODOLOGY

This research used the mixed method approach for meeting its objectives. The mixed-method approach uses both primary and secondary data for analysis and reaching to a conclusion.

PHILOSOPHY: The research has used the interpretivism philosophy for the interpretation of data, which includes secondary research data collected from a wide range of sources, and primary data collected against a questionnaire. The philosophy adopted takes a natural approach to the collection of observational data (Packard, 2017).

APPROACH: With the interpretivism philosophy the research has used the inductive approach and a wide range of theories has been developed for developing a critical understanding of the topic of research. Thus, the data collected will present the true perspective of the theory as well as real case scenario, regarding the impacts of VLEs. This approach relies upon the experiences and observation of data for answering the research question (Smart et al. 2012).

METHOD: The research uses both primary and secondary data, from a wide range of sources to develop an unbiased and wide understanding. The secondary data has been sourced from various academic resources such as blogs, news articles, previous research papers, and so on; while the primary data has been collected against a set of 5 questions, which were so designed that it minimizes the influences of personal biasing of the respondents. As it is mandatory to maintain social distancing due to Covid-19, the responses for primary data was collected online.

COST ANALYSIS: The table below represents the expenses of conducting this research:

Costs type	Cost amount (in £)
Expenses of conducting an online survey	10
Stationery items	10
Internet	25
total	45

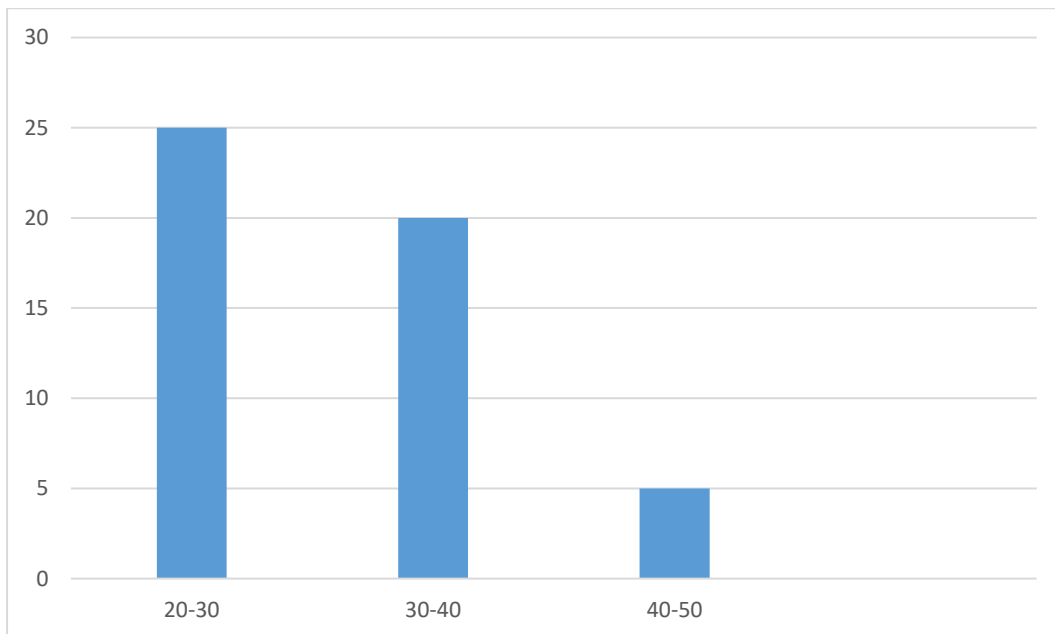
ETHICAL ISSUES: While conducting this research, all the necessary ethical aspects were considered. The responses from the respondents were collected after informing them about the aims of this research, and only after their consent, they were asked questions. Their data were also secured for ensuring their privacy and anonymity. Other ethical considerations include fair and equal treatment and unbiased questioning.

PRIMARY DATA ANALYSIS

The primary data was collected from the students who were using VLEs, and analysis of their responses are given below:

➤ How old are you?

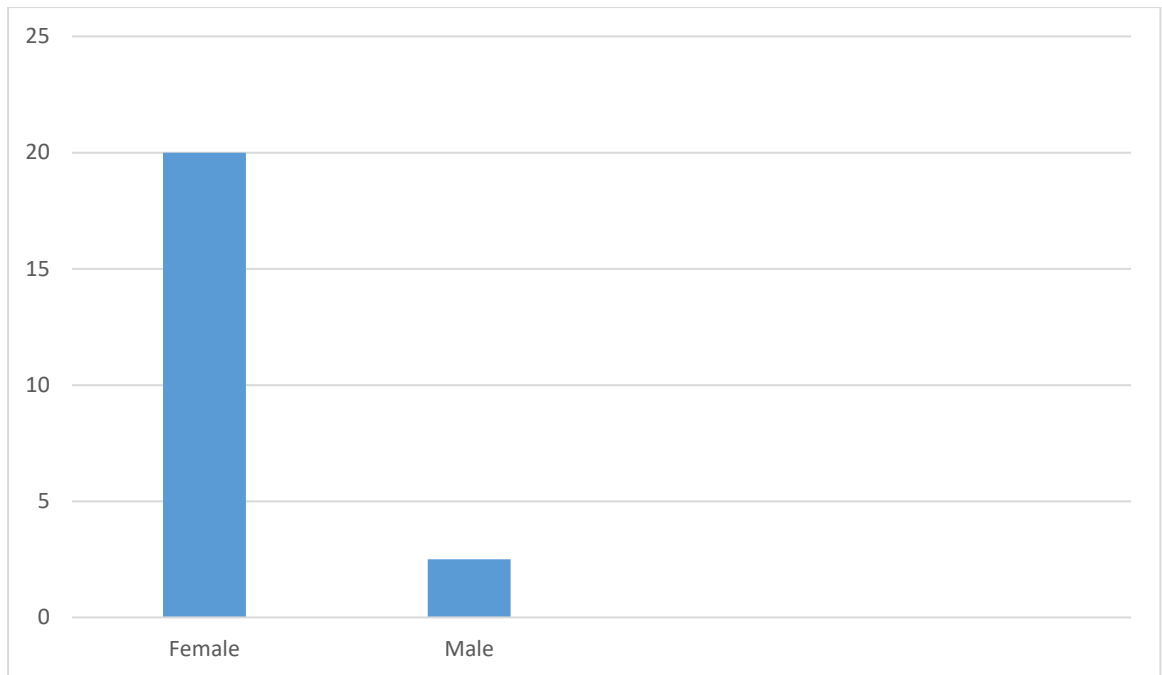
20-30	25
30-40	20
40-50	5
Total	50



Interpretation: According to the age of the students the majority are young students between 20-30 years. Then followed by the student with age between 30-40. There are not many students with age between 40-50 using the VLE.

➤ Are you...?

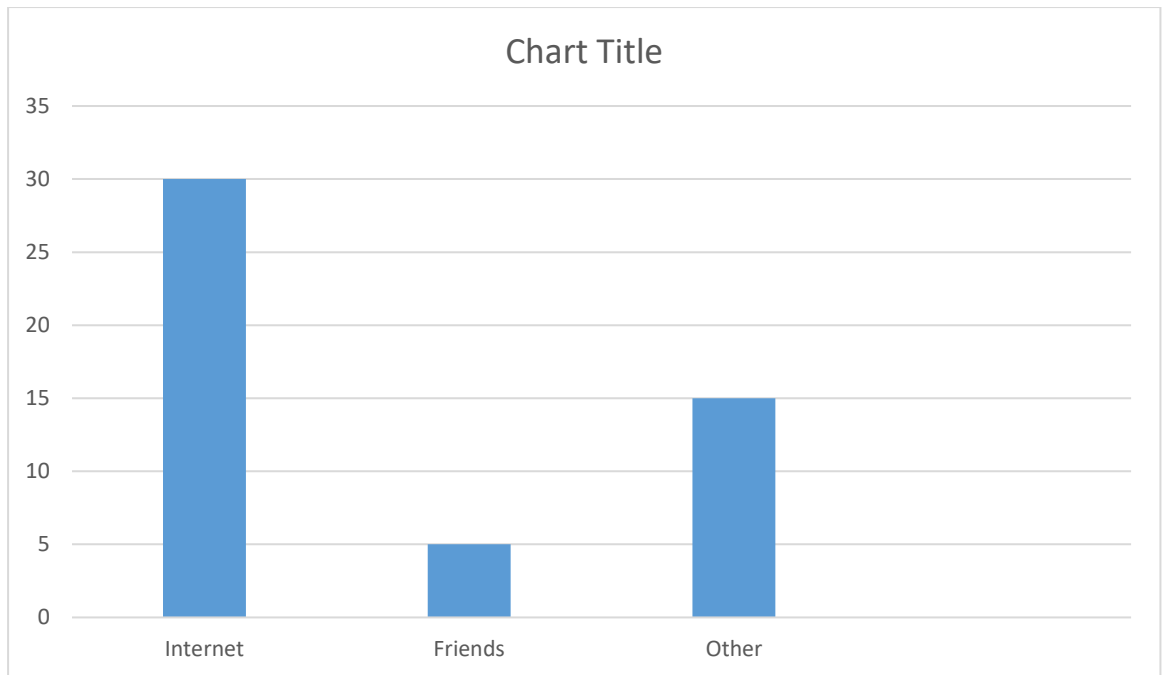
Female	20
Male	30
Total	50



Interpretation: According to the answer that have been given the majority number of respondents using VLE is female. And minority number is male.

➤ How did you hear about VLE?

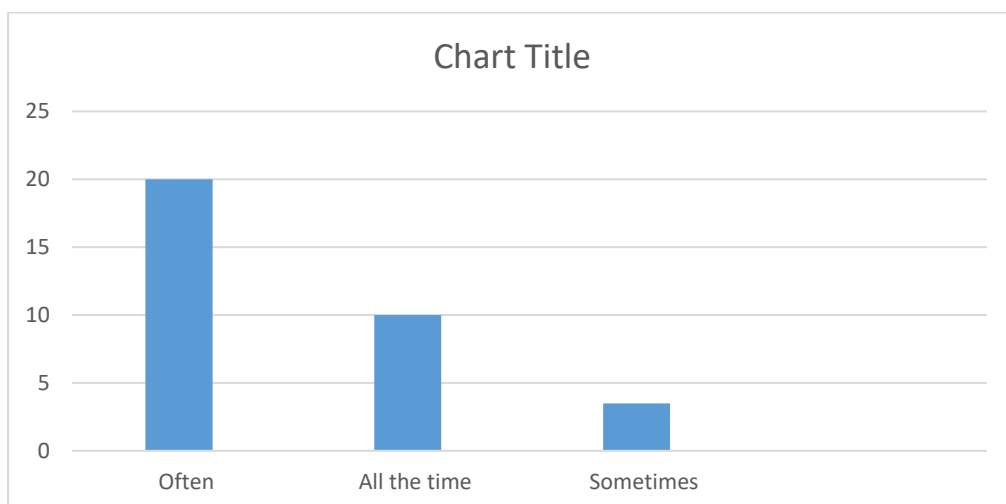
Internet	30
Friends	5
Other	15
Total	50



Interpretation: In regarding to the chart most of the student did hear about VLE from Internet and not from other sources.

➤ How often do you use VLE?

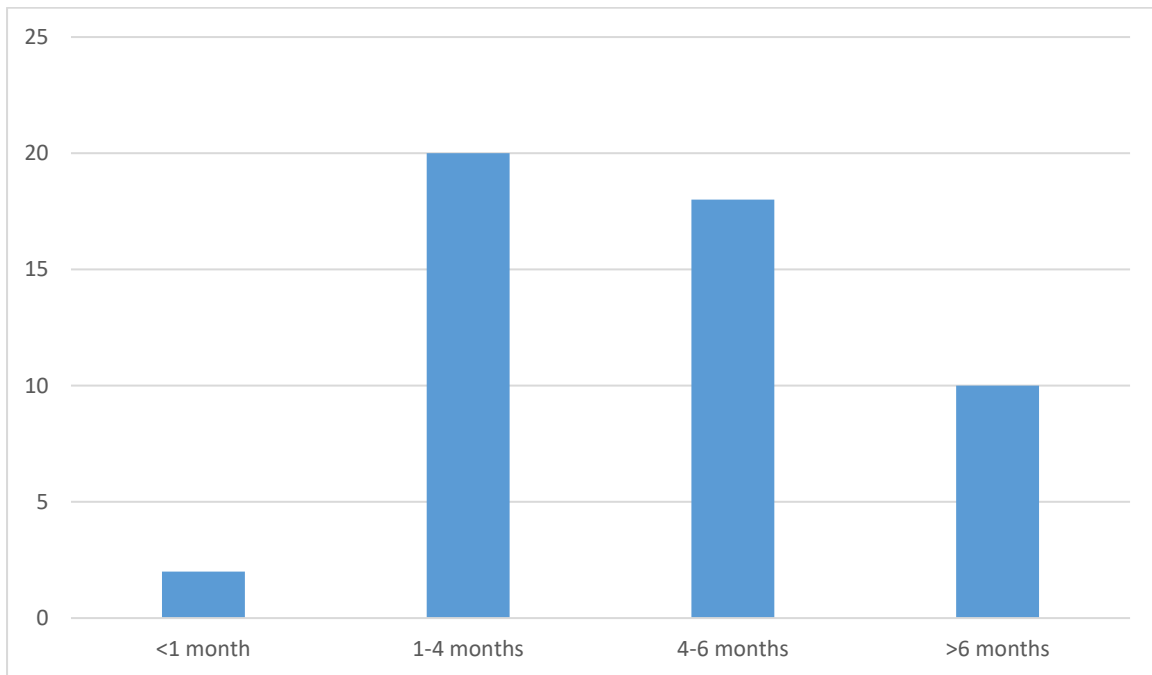
Often	20
All the time	10
Sometimes	20
Total	50



Interpretation: According to the respondent, most of them use VLE for online learning very often. So we know that it is very use at this time.

➤ Since how long you've been using VLEs for online learning?

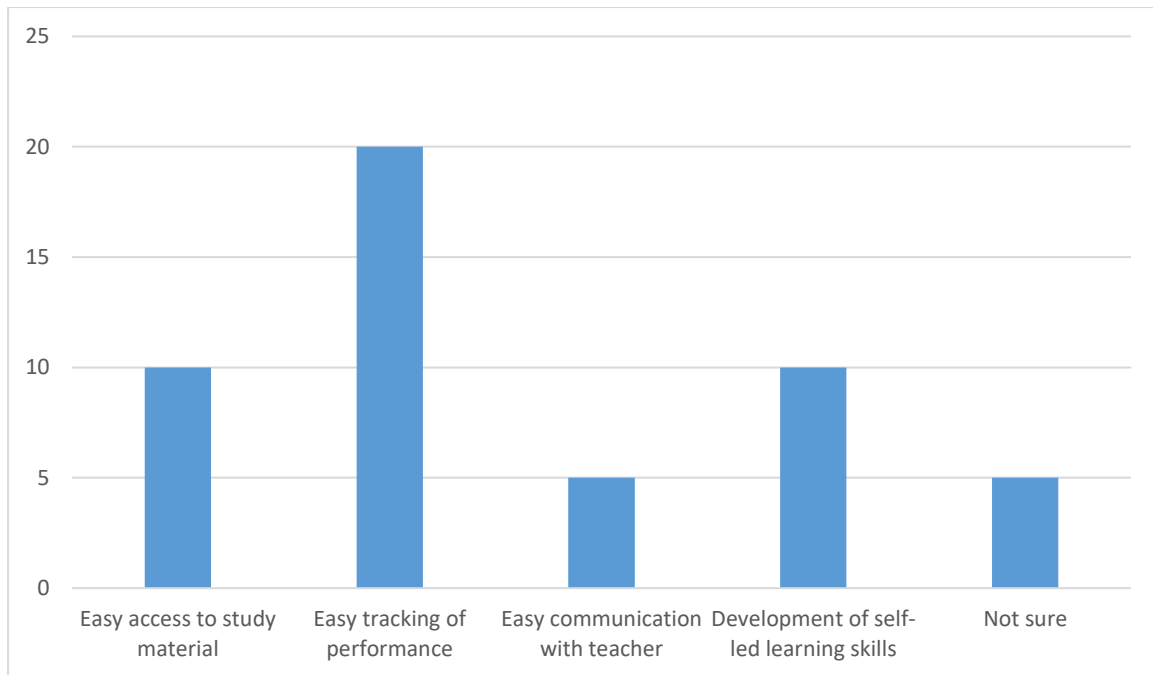
<1 month	2
1-4 months	20
4-6 months	18
>6 months	10
Total	50



Interpretation: Most of the respondents has been using VLE for between 1 to 4 months, while the second-largest number of people were using it between 4 to 6 months. This suggests that most of them were well aware of VLE and hence can give vital insights for primary data.

➤ According to you, what is the biggest benefit of VLE?

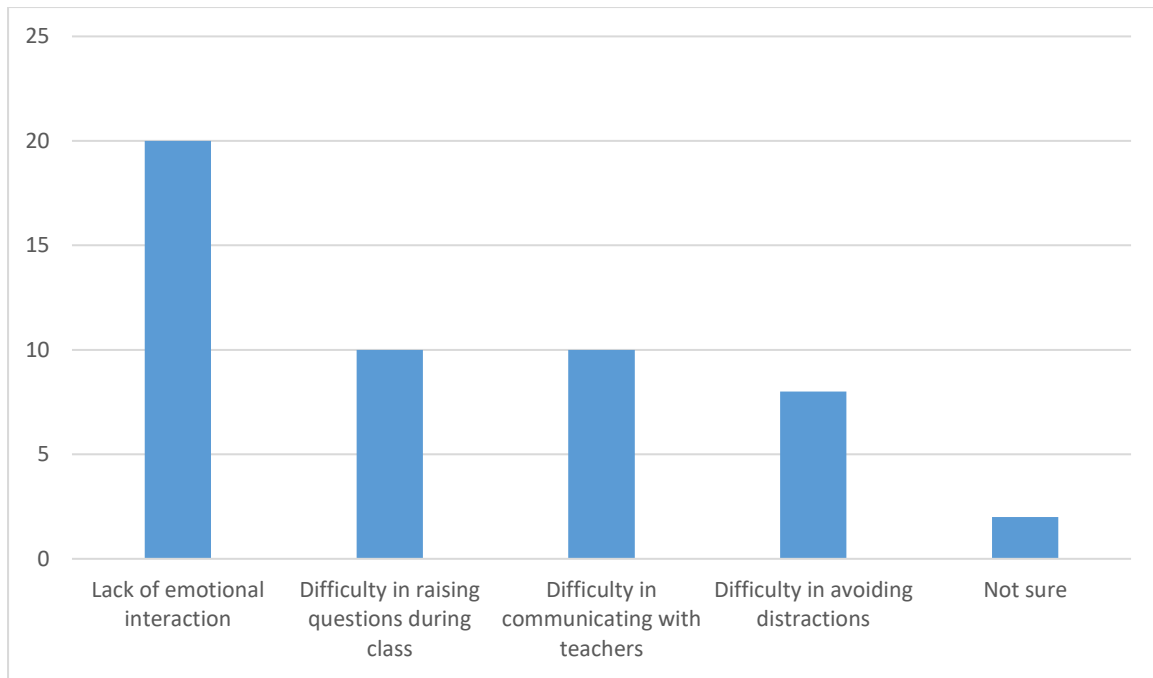
Easy access to study material	10
Easy tracking of performance	20
Easy communication with a teacher	5
Development of self-led learning skills	10
Not sure	5
Total	50



Interpretation: According to the students, easy performance or progress tracking was the biggest advantage, while a significant number of respondents were also in the favour of easy access to study material and development of self-learning skills. 5 respondents, however, were not sure about it much.

➤ According to you, what is the biggest disadvantage of VLE?

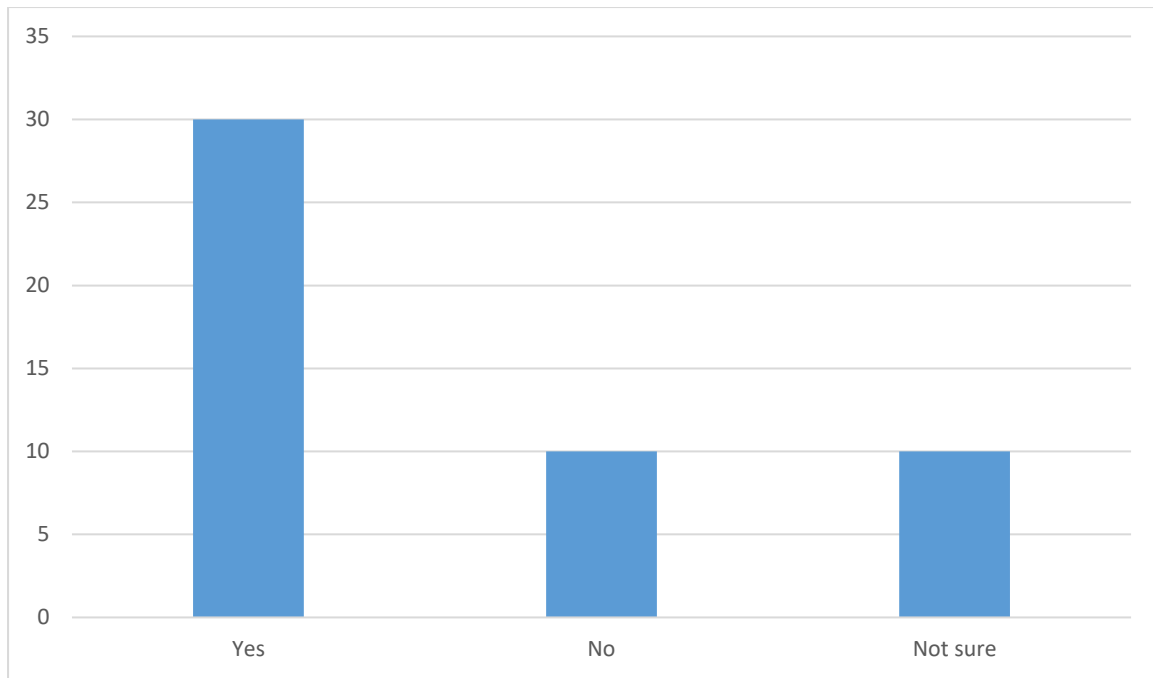
Lack of emotional interaction	20
Difficulty in raising questions during class	10
Difficulty in communicating with teachers	10
Difficulty in avoiding distractions	8
Not sure	2
Total	50



Interpretation: According to the respondents, the biggest disadvantage of VLE was lack of emotional interaction with others. While many of them also stated that it is difficult to take effective learning sessions if internet connectivity is weak, making it difficult to avoid distractions and communicating with the tutor.

➤ Overall, do you find it easier to learn through VLEs than in physical classrooms?

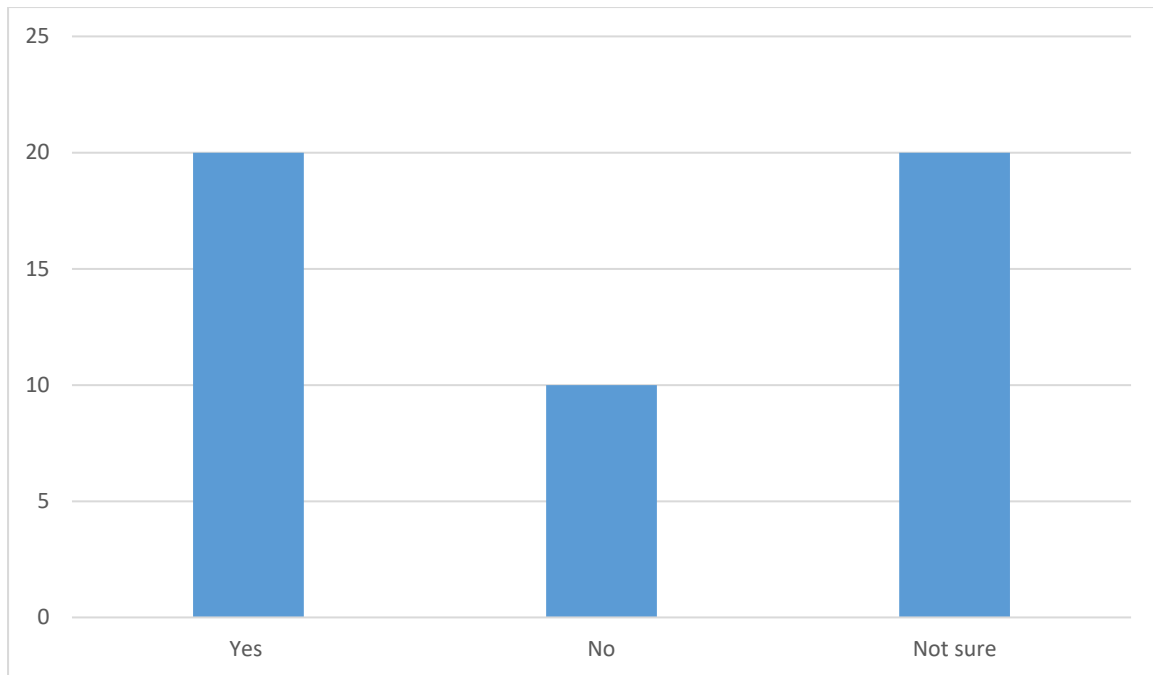
Yes	30
No	10
Not sure	10
Total	50



Interpretation: Most of the respondents stated that it is easier to learn through VLEs than in physical classrooms, while a significant number of respondents were not sure about it.

Are you planning to further continue with VLE for future educational purposes?

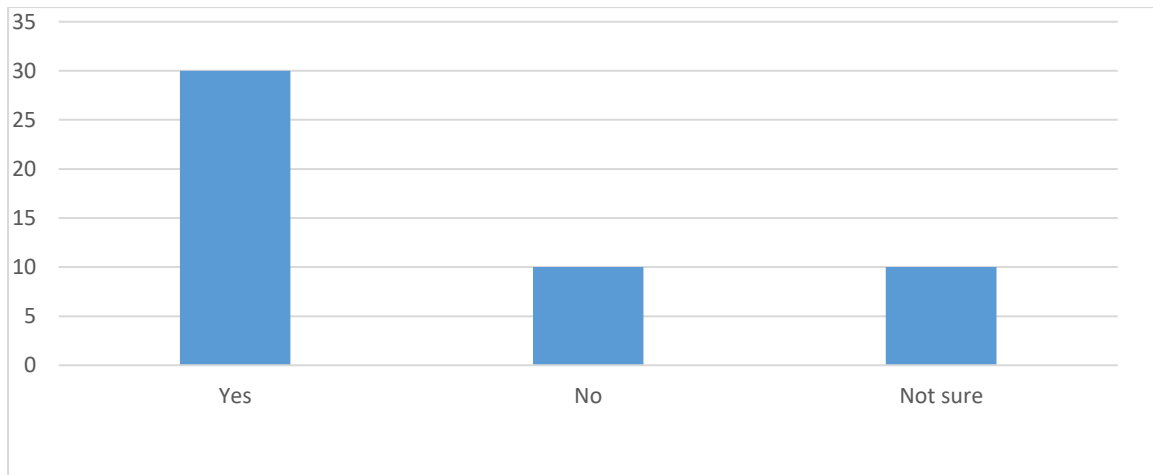
Yes	20
No	10
Not sure	20
Total	50



Interpretation: Most of the respondents stated that they will continue to learn through VLEs, while the same number of respondents also stated that they were not sure about it. This suggests that there is still a lot of uncertainty regarding the future of VLEs.

➤ Would you recommend VLE to others?

Yes	30
No	10
Not sure	10
Total	50



Interpretation: According to the answer of the respondents the majority would recommend VLE to other users.

SECONDARY DATA ANALYSIS

The secondary data collected and analysed, highlighted the 3 key aspects of VLE's impacts, i.e. its historical background, its advantages and disadvantages. From the secondary data, it can be interpreted that the VLE is still in its initial phase and it has to evolve before it becomes a well-integrated and essential part of educational institutions. The historical background suggested that VLE is still growing at a very rapid rate and is being embraced by many universities and schools all around the world, suggesting that it is here to stay and grow. The benefits of VLEs were both for the learners as well as tutors. For learners, VLE benefits them by helping them to track their performance and maintain their study materials in a highly organized manner. VLE also benefits the teachers in terms of management of study materials and organizing quick learning sessions to their students. Thus, VLEs leverage the various benefits of continuously evolving technologies, making the interaction between the students and teachers more effective and interactive.

The secondary data also discussed some of the limitations of VLEs. The discussion concluded that students find it difficult to manage self-led learning, as the monitoring and control are less effective as compared to physical classrooms. It also suggested that weak integration also causes difficulty in learning or in being attentive during classroom sessions. It also lacks in physical interaction, hence affecting the learning ability of the students. However, those who can manage self-led learning gain remarkable benefits.

CONCLUSION AND RECOMMENDATIONS

The report conducted primary and secondary data and analysed them to determine the impact of virtual learning on students and overall education scenario. The secondary data helped in developing a critical understanding of the topic, which helped in the primary data analysis. The analysis of both the data suggested that there are some differences in theory and practice. It was found that despite its rapid growth, its limitations are significant, affecting the acceptance of VLEs by the students. Students stated that even if the limitations are few, they are significant enough to affect the effectiveness of VLE. The primary data analysis suggested that almost every student find it difficult to manage self-led learning, which is more in cases of school-going students. Overall, looking at the analysis of both the primary and secondary data, it can be concluded that it has a great scope, but still needs modifications before it is embraced widely by the educational institutions as well as the students.

Keeping the limitations of VLEs in perspective, it is recommended that teachers apart from focusing on the completion of courses, should also help their students to learn self-management and time-management skills. As there is relatively less physical motion while attending virtual classes, it is necessary to maintain an appropriate posture so that they don't feel fatigued. Further, it is also recommended to ensure that there is fast internet connectivity so that the sessions can take place seamlessly and doesn't cause frustration to them. If not available, students are suggested to talk to their teachers regarding the issue and reach to a conclusion, such as taking separate classes or referring to a friend, for catching up what has been missed.

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APPENDIX

Questionnaire survey:

How old are you?

- 20-30
- 30-40
- 40-50

Are you...?

- Female
- Male

How did you hear about VLE?

- Internet
- Friends
- Other

How often do you use VLE?

- Often
- All the time
- Sometimes

Since how long you've been using VLEs for online learning?

- <1 month
- 1-4 months
- 4-6 months
- >6 months

According to you, what is the biggest benefit of VLE?

- Easy access to study material
- Easy tracking of performance
- Easy communication with a teacher
- Development of self-led learning skills

- Not sure

According to you, what is the biggest disadvantage of VLE?

- Lack of emotional interaction
- Difficulty in raising questions during class
- Difficulty in communicating with teachers
- Difficulty in avoiding distractions
- Not sure

Overall, do you find it easier to learn through VLEs than in physical classrooms?

- Yes
- No
- Not sure

Are you planning to further continue with VLE for future educational purposes?

- Yes
- No
- Not sure

Would you recommend VLE to others?

- Yes
- No
- Not sure