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Research method

DSR Assessment 2

Individual Report

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Title: To examine the impact of virtual learning framework on students

INTRODUCTION

Teaching and learning are changing at a rapid rate in the current digitised world. Educational institutions are shifting from usage of traditional classroom teaching and focusing on utilisation of virtual learning environment solutions. Introduction of virtual learning environment has various effects on students and understanding the impact of virtual learning environment on student development and learning experience is key to effective utilisation of this new technology. This research aims to analyse the role of virtual learning environment on student experience, identify current virtual learning environment teaching techniques and evaluate challenges in effective usage of virtual learning environment. Primary and secondary data analysis is present in this investigation with use of online survey as the research instrument.

Aim: To examine the impact of virtual learning framework on performance and educational experience of students.

Research Objectives:

- To analyse the role of virtual learning environment in improving student experience.
- To identify virtual learning environment teaching techniques which are currently being used by educators.
- To analyse challenges faced in effective usage of virtual learning environment in improving education given to students.

Research questions:

- What is the role of virtual learning environment in improving student experience?
- What are the virtual learning environment teaching techniques which are currently used by educators?
- What are the challenges faced during suitable usage of virtual learning environment in improving education given to students?

Literature Review

THEME 1: Influence of virtual learning environment over students' educational advancements.

As per the view of Demian & Morrice, Virtual learning environment has been growing over the current years which is considerably helpful for overall development and growth of students in terms of academics as well as personality. It is being observed that lecture-based instructions less effective as compared to virtual based learning. It is helpful for students by providing adequate learning experience by application of such virtual platform. It is necessary to identify the teaching style being adopted for both lecture-based learning and virtual learning to identify issues and take necessary corrective actions in this regard. In the growing technological advancements, it is important to adapt most improved technology which will be helpful in overall development of students. Virtual leaning system is more impactful in instructions-based learning style (*The use of virtual learning environments and their impact on academic performance, 2015*). It helps students to access study material in easier manner and build up learning structure in appropriate way. Also, academic practices has been influenced by technological factor which is said to be future of learning environment. It is said to be web-based resources which are part of academics to facilitate with appropriate knowledge. As it is determined that in today's times technological resources have been playing vital role in creation of impactful environment which is said to be interactive and much personalised. This system has various benefits and advantages due to which various institutes have adopted this structure for learning, teaching as well as assessing student's performance.

THEME 2: Virtual learning environment teaching techniques used by educators presently.

According to Sharma, various virtual learning environment techniques are used by educators to ensure that each student is given quality education and to improve their overall learning experience. Classroom flipping is a virtual learning teaching technique used by educators which involves encouraging students to prepare for lessons prior to class. Online discussions are part of this technique which helps students understand educational subject in a profound manner. Instructional design is a teaching technique which is used by educators to create personalised teaching experience for each student (*5 Online Teaching Techniques Instructors Must Know, 2021*). Teachers take time to gain better understanding about their learners and develop lessons which are unique and provide a personalised learning experience to each student.

THEME 3: Challenges being faced in effective use of virtual learning environment.

According to Maltby & Mackie, virtual learning environment could be help as well as hindrance for overall development of the students. It requires combination of right platform and correct strategy in order deliver appropriate results. Various practical challenges being faced are investment in correct technology, support of relevant teaching staff, authority of parents, good learning surroundings at home, internet safety for students, monitoring their performance from such platform and so on. Therefore, it is important to analyse a system from each and every aspect so that appropriate decision could be attained. It is said to be challenging from various aspects. Also, low broadband connectivity could hamper the learning process which is considered as ineffective. It is important to consider certain factors in this regard in order to achieve appropriate results. Also learning system needs to be effective to deliver most appropriate results. By offering right education and training to students and teaching staff it will become easier to overcome the gap between such learning platform & lecture-based learning. The institute includes to build appropriate system of learning over internet in order to make it simple for students to access such platform in an easier manner (*Virtual learning environments – help or hindrance for the ‘disengaged’ student?*, 2016). Various challenges are overcome from use of such cloud-based platform such as classroom management tools, comprehensive web-filtering, parental controls and so on. Therefore, it is important to overcome several challenges in virtual learning system as well as proper training needs to be provided to each participant in effective manner.

Research Methodology

Research Onion framework is used in this investigation which depicts the ways in which various elements in a research can be examined for creation of final research design. The research onion framework includes six layers which are provided below:

Research Philosophy

A research philosophy is the notion about the way in which information about a particular subject needs to be collected, analysed and used. Positivism and interpretivism are two types of research philosophy (af Wåhlberg, 2017). Positivism is the research philosophy selected for the present study as it utilises quantitative data to produce reliable results.

Research approach

The strategy and procedure which consists of the phases of wide assumptions to elaborated methods of data gathering, analysis and interpretation. Research approach is divided into two groups which are deductive and inductive. The present investigation utilises deductive

research approach as it provides possibility for generalisation of research findings to a certain extent.

Research strategy

A plan of action which includes detailed course for directing thoughts and efforts of the investigator for conducting quality research in a timely manner. Interviews, online surveys, systematic literature review and case study are examples of a research strategy. Online survey is the selected research strategy for this investigation as it is cost effective.

Data collection

Methods used for collecting data relevant to the research is part of this layer of the research onion framework. Quantitative and qualitative data collection method are primary data collection methods (Dodds and Hess, 2020). This research is conducted with the usage of quantitative data collection method as it increases objectivity and accuracy of the investigation.

Time horizon

Time frame of the research is included in this layer of the onion research framework. Observations are divided on two categories based on time horizon which are cross-sectional and longitudinal. Cross-sectional is the time frame selected for this research because it is not costly and does not require a lot of time.

Data sources

Primary and secondary are two kinds of data sources. This investigation includes the usage of primary data sources as it includes information for the particular purpose of the study.

Data analysis

This layer involves the application of statistical or logical techniques for describing, illustrating, and evaluating data. Thematic data analysis and frequency data analysis are two types of data analysis techniques. This study uses frequency data analysis as it helps in obtaining much sharper estimates.

Research sampling

This is defined as the process of taking predetermined number of observations from a large population. Probabilistic and non-probabilistic are two kinds of research sampling methods (Imae, 2017). The present investigation utilises probabilistic research method is utilised in this research as it reduces systematic error and sampling bias. The sample size for the online survey for the present investigation is 20.

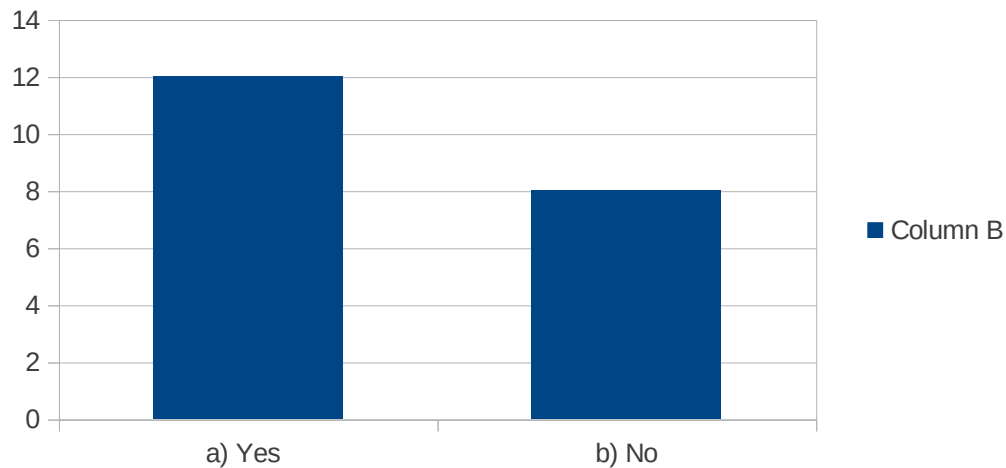
Research instruments

This includes measurement tools used to obtain data on a particular topic from research subject. Online survey, tests, checklists are some examples of research instruments. Online survey is the selected research instrument for the present investigation.

Primary data Analysis

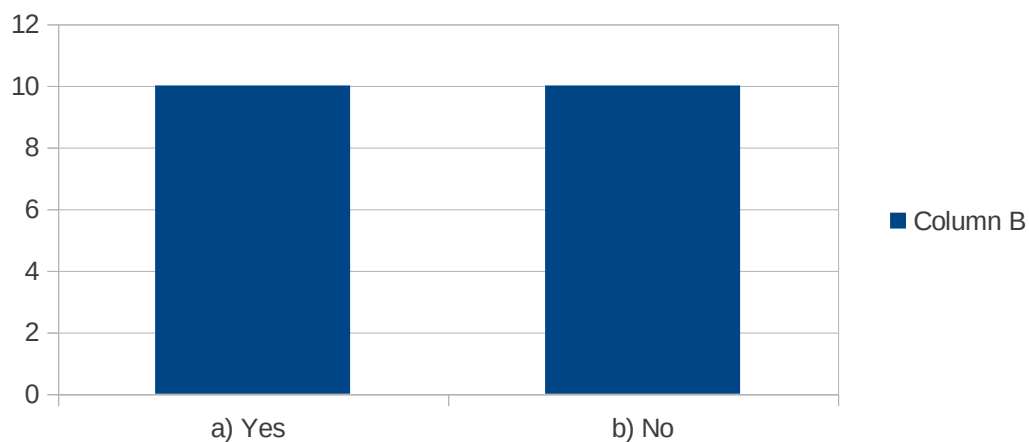
Online Survey

Question 1: Does virtual learning environment has positive influence on student experience?	Frequency
a) Yes	12
b) No	8



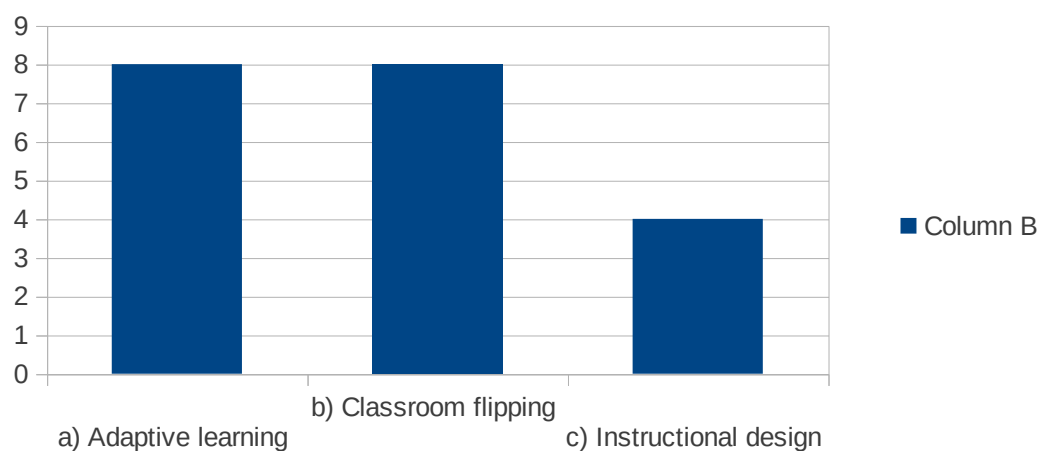
Interpretation: From the above graph it is determined that out of 20 respondents at state that virtual learning environment has a positive influence on educational experience of student while 8 respondents believe that virtual learning environment does not have positive influence on students.

Question 2: Does virtual learning environment create interactive and personalised learning experience?	Frequency
a) Yes	10
b) No	10



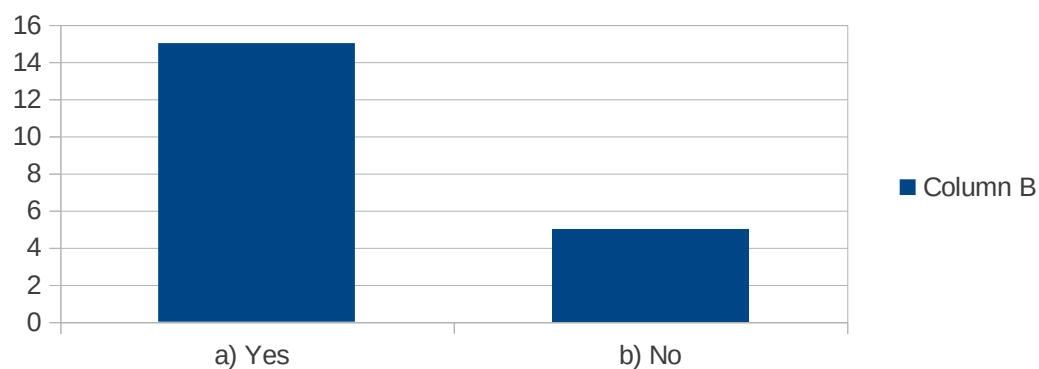
Interpretation: From the above graph it is analysed that from 20 participants, 10 state that virtual learning is successfully in creating interactive and personalised learning experience while remaining 10 participants do not agree with the statement that virtual learning experience creates interactive and personalised learning experience.

Question 3: What is the most effective virtual learning environment teaching technique?	Frequency
a) Adaptive learning	8
b) Classroom flipping	8
c) Instructional design	4



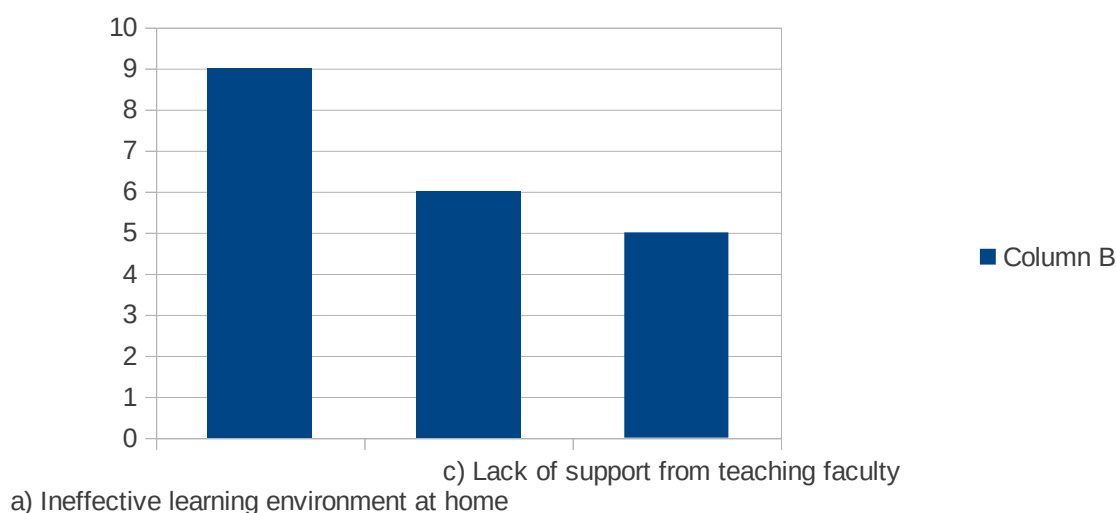
Interpretation: From the above graph it is determined that out of 20 respondents, 8 consider adaptive learning to be the most effective teaching technique while 4 prefer instructional design as the most effective teaching technique. Remaining 8 respondent state classroom flipping to be the most effective teaching technique.

Question 4: Is virtual learning environment more beneficial to students in comparison to traditional classroom learning?	Frequency
a) Yes	15
b) No	5



Interpretation: From the above graph it is determined that out of 20 participants 15 consider virtual learning environment to be more beneficial in comparison to traditional classroom teaching while 5 consider traditional classroom teaching method to be more advantageous.

Question 5: What is the primary barrier in effective usage of virtual learning environment to improve educational experience of students?	Frequency
a) Ineffective learning environment at home	9
b) Low internet connection	6
c) Lack of support from teaching faculty	5



Interpretation: From the above graph it is determined that out of 20 respondents 9 believe that ineffective learning environment at home is the main barrier in effective usage of virtual learning environment while according to 6 low internet connection is a barrier in effective usage of virtual learning environment. Remaining 5 respondents state that lack of support from teaching faculty is the main challenge which reduces effectiveness of virtual learning environment.

Secondary data analysis

For analysing the secondary information, thematic analysis is used by the investigator as it helps in gaining knowledge based on the particular topics in an effective manner. In addition to this, the main purpose of selecting this technique is it assist in getting valid and reliable data that further assist in development of appropriate conclusion. It is analysed by the conducting secondary analysis that virtual learning environment is one of the effective techniques that help

in proper development and growth students. Moreover, it also helps in developing meaningful conclusion in less time and cost as well.

CONCLUSION

From the above research it is concluded that creation of virtual learning environment has various advantages and increases the quality of education provided to the students. Digital technology is changing education sector and educators are using various techniques for improving learning experience of their students. Virtual learning environment also has various challenges which lower the effectiveness of various features of this technology. Virtual learning environment is a new technology and viewpoints of students need to be considered in order to ensure effective usage of such technology.

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