# Research proposal

Transcript

# Project Title

The implementation and impact of E learning on education during Covid 19

# Significance/Contribution to the discipline.

The extraordinary dilemma of the COVID-19 outbreak prompted the closure of educational institutes all around the world, forcing a shift to online learning. This particular approach encourages researchers to analyse students’ e learning experiences and educational outcomes. Because this is a one-of-a-kind and new circumstance, the effectiveness and impact of it is uncertain, therefore it needs to be investigated. (Zalat, Hamed and Bolbol, 2021)

***Reference***

***Zalat, M., Hamed, M. and Bolbol, S., (2021). The experiences, challenges, and acceptance of e-learning as a tool for teaching during the COVID-19 pandemic among university medical staff. PLOS ONE, 16(3), p.e0248758.***

# Research Question//Research Problem

Several research questions are created to guide the key literature to the project 1) The impact the rapid shift to e-learning caused on teachers and students 2) The impact e-learning had on academic education 3) Challenges faced by teachers due to the implementation of e-learning 4) Challenges faced by students due to the implementation of e-learning 5) Impact e-learning had on academic achievements 6) Impact e-learning has on mental health

# Aims and Objectives.

The aim of the study is to explore the implementation of e-learning during the Covid 19 pandemic to contribute to the understanding of the various challenges and opportunities which derive from it to come to an understanding of the effectiveness and impact of it.

# Key literature related to the project.

Teachers who gave courses on e-learning platforms were previously professionally educated by corporations. This COVID-19 outbreak, on the other hand, came out of nowhere. Teachers who are regular offline educators were forced into the transition of utilising e-learning platform.(Chen, et al., 2020). Similarly, Watermeyer, et al. (2021) explains teachers did not have the necessary expertise to seamlessly shift from classroom-based teaching to e-learning which did not result in high quality teaching. Contrarily, Crawford, et al. (2020) argues that remote teaching isn't a new concept, and teachers should already be equipped to teach online courses.

According to Panchenko (2013) E-learning enhance skills of teaching. Moreover Botelho, et al. (2019) found that a digital clinical book was easier to utilise as well as to study from, than physical books. However, while prior studies highlighted the influence of e-learning on students who intentionally chose remote education, the present COVID-19 scenario enables researchers to investigate the effect on all learners as well as educators who were forced to convert to e-learning approach.

Students' capability to obtain education via online learning was impeded by mental health difficulties such as distress, worry, and insecurity about the future. (Rajkumar, 2020). Similarly, Hasan and Bao (2020) found that as a result of weak e-Learning methods together with the anxiety of missing an academic year, pupils faced psychological stress.

Amir, et al. (2020) claimed, classroom-based learning delivers a better educational sense of achievement than remote learning. Moreover, students are less satisfied with their classes and examination techniques in e-learning situations (Dinh and Nguyen, 2020). On the other hand, Jacques, et al., (2020) revealed the pupils felt happy with the quality of online lectures during COVID-19 and that the examination procedures and resources utilised in online learning were effective

A study carried out in 2008, prior to COVID-19 outbreak, revealed that direct interaction with peers and lecturers played a significant impact in academic growth and student performance. (Sun, et al., 2008). However, Puljaks, et al. (2020)’s study pupils revealed that communicating with peers and teachers was difficult during online learning. Likewise, almost 70% of undergraduate students claimed they had not communicated frequently with their tutors. (Tang, et al., 2020). However, video meetings with the lecturer in a relaxed setting were greatly valued by students as revealed in Baltà-Salvador, et al. (2021)’s study. Furthermore, students claimed that the teachers provided prompt responses to the students enquires, and were supportive (Baltà-Salvador, et al., 2021).

According to Ali (2020), students' attitudes toward educational technology had a direct influence on their learning process; a negative perception had a detrimental impact on their academic achievement. Likewise, the design of the course, timely responses and feedback from tutors, and student expectations all have a beneficial influence on student satisfaction and positively influence student performance (Gopal, et al., 2021). It was estimated by the study that the exam results of students in 2020 were more likely to be an ‘A’ grade, but this was only an estimate, the study did not reveal if they actually received an A grade (Zheng, et al, 2021). Though, Jacques, et al. (2020) study demonstrated e-learning had no effect on engineering students' productivity and also the results obtained were consistent with the results obtained in classroom-based learning.

**Further Research**

From the literature it can be seen that there are differing opinions and inconsistent findings about student satisfaction and effectiveness of e-learning and there is a lack of research regarding the impact of e-learning on students’ academic outcomes and achievements, so as a result further research should be carried out to measure and evaluate the impact e-learning has on academic achievements and performance in the COVID-19 era. This will aid in reaching an acceptable conclusion of the impact e-learning, in the COVID 19 era has had on the education of students – effective or not?

**References**

***Ali, W., (2020). Online and remote learning in higher education institutes: A necessity in light of COVID-19 pandemic. Higher education studies, 10(3), pp.16-25.***

***Amir, L., Tanti, I., Maharani, D., Wimardhani, Y., Julia, V., Sulijaya, B. and Puspitawati, R., (2020). Student perspective of classroom and distance learning during COVID-19 pandemic in the undergraduate dental study program Universitas Indonesia. BMC Medical Education, 20(1).***

***Aristovnik, A., Keržič, D., Ravšelj, D., Tomaževič, N. and Umek, L., (2020). Impacts of the COVID-19 pandemic on life of higher education students: A global perspective. Sustainability, 12(20), p.8438.***

***Baltà-Salvador, R., Olmedo-Torre, N., Peña, M. and Renta-Davids, A., (2021). Academic and emotional effects of online learning during the COVID-19 pandemic on engineering students. Education and Information Technologies, 26(6), pp.7407-7434.***

***Botelho, J., Machado, V., Proença, L., Rua, J., Delgado, A. and João Mendes, J., (2019). Cloud‐based collaboration and productivity tools to enhance self‐perception and self‐evaluation in senior dental students: A pilot study. European Journal of Dental Education, 23(1), pp.e53-e58.***

***Chen, T., Peng, L., Yin, X., Rong, J., Yang, J. and Cong, G., (2020). Analysis of User Satisfaction with Online Education Platforms in China during the COVID-19 Pandemic. Healthcare, 8(3), p.200.***

***Crawford, J., Butler-Henderson, K., Rudolph, J., Malkawi, B., Glowatz, M., Burton, R., Magni, P. and Lam, S., (2020). COVID-19: 20 countries’ higher education intra-period digital pedagogy responses. 1, 3(1).***

***Dinh, L. and Nguyen, T., (2020). Pandemic, social distancing, and social work education: students’ satisfaction with online education in Vietnam. Social Work Education, 39(8), pp.1074-1083.***

***Gopal, R., Singh, V. and Aggarwal, A., (2021). Impact of online classes on the satisfaction and performance of students during the pandemic period of COVID 19. Education and Information Technologies, 26(6), pp.6923-6947.***

***Hasan, N. and Bao, Y., (2020). Impact of “e-Learning crack-up” perception on psychological distress among college students during COVID-19 pandemic: A mediating role of “fear of academic year loss”. Children and Youth Services Review, 118, p.105355.***

***Jacques, S., Ouahabi, A. and Lequeu, T., (2020). Remote Knowledge Acquisition and Assessment During the COVID-19 Pandemic. Int. J. Eng. Pedagog., 10(6), pp.120-138.***

***Jacques, S., Ouahabi, A. and Lequeu, T., (2020). Remote Knowledge Acquisition and Assessment During the COVID-19 Pandemic. International Journal of Engineering Pedagogy (iJEP), 10(6), p.120.***

***Panchenko, L.F., (2013). Massive open online course as an alternative way of advanced training for higher educational establishment professors. Education and pedagogical sciences.***

***Puljak, L., Čivljak, M., Haramina, A., Mališa, S., Čavić, D., Klinec, D., Aranza, D., Mesarić, J., Skitarelić, N., Zoranić, S. and Majstorović, D., (2020). Attitudes and concerns of undergraduate university health sciences students in Croatia regarding complete switch to e-learning during COVID-19 pandemic: a survey. BMC medical education, 20(1), pp.1-11.***

***Rajkumar, R., (2020). COVID-19 and mental health: A review of the existing literature. Asian Journal of Psychiatry, 52, p.102066.***

***Sun, P.C., Tsai, R.J., Finger, G., Chen, Y.Y. and Yeh, D., (2008). What drives a successful e-Learning? An empirical investigation of the critical factors influencing learner satisfaction. Computers & education, 50(4), pp.1183-1202.***

***Tang, T., Abuhmaid, A.M., Olaimat, M., Oudat, D.M., Aldhaeebi, M. and Bamanger, E., (2020). Efficiency of flipped classroom with online-based teaching under COVID-19. Interactive Learning Environments, pp.1-12.***

***Watermeyer, R., Crick, T., Knight, C. and Goodall, J., (2021). COVID-19 and digital disruption in UK universities: Afflictions and affordances of emergency online migration. Higher Education, 81(3), pp.623-641.***

***Zheng, M., Bender, D. and Lyon, C., (2021). Online learning during COVID-19 produced equivalent or better student course performance as compared with pre-pandemic: empirical evidence from a school-wide comparative study. BMC medical education, 21(1), pp.1-11.***

# Methodology/Development strategy/Research Design.

**Methodology**

As noted previously, this study will explore the impact e-learning has on academic achievements and grades since e-learning was implemented in the COVID 19 era. It is decided that quantitative measures will be useful, as it will focus on identifying patterns of university students’ academic achievements performance before and after Covid-19 and may thus be utilised to establish conclusions based on the aim of the study. As the literature review would have already explored the studies qualitative research is not required instead the quantitative approach will be useful which would be focused on a specific research question and be objective rather than subjective and allow to generate numerical data to be used in statistics. (Formpl.us, 2021)

***Reference***

***Formpl.us. (2021). 15 Reasons to Choose Quantitative over Qualitative Research. [online] Available at: <https://www.formpl.us/blog/quantitative-qualitative-research> [Accessed 3 April 2022].***

**Methodology- questionnaire design**

The survey would start off with important information for the participants regarding ethics and details of the survey:

**FIGURE**

The survey would made up of 4 multiple-choice questions to understand the demographic characteristics of the participant

1) What is the level of your study?

2) For undergraduate students: Which academic year are you in?

3) For postgraduate students: Which Postgraduate course are you in

4) Which online learning platform did you use during the lockdown?

As well as 6 interval rating scale questions to understand the impact of e-learning on the academic performance of university students during Covid-19.

1. On a scale of 1-10 how difficult did you find studying for exams?
2. On a scale of 1-10 how would you rate the difficulty of online exams?
3. On a scale of 1-10 how effective did you find online exam feedback compared to face -face feedback?
4. On a scale of 1-10 how serious did you take online learning compared to face-face learning?
5. On a scale of 1-10 how well did you manage with online exams time limit as compared to giving exams “in person”?
6. On a scale of 1-10 how honest have you been whilst giving exams online knowing there are no physical invigilators watching over you?

and 6 Likert/Ordinal scales questions also to understand the impact of e-learning on the academic performance of university students during Covid-19.

1) How did E-learning affect your study/research during COVID-19?

2) How were your grades during the implementation of E-learning in COVID-19?

3) How were your grades before the implementation of E-learning in COVID-19?

4) How much extra reading could you do during the implementation of E-learning during COVID-19 compared to prior to the pandemic?

5) It is easier to submit assignments before the deadline when the whole course is online. How much do you agree with this statement?

6) How often have you suffered from any sort of software malfunction and/or loss of internet connection during an online exam?

Interval rating scale questions helps to obtain a precise measurement, with the 10 point scale there are more data to work with thus giving flexibility when conducting the analysis. A drawback can be that the data cannot always be read by the researcher straight away or quickly, and it can take some time for the participant to decide an answer.

ordinal/likert scale questions, compared to the interval rating scale, can be easier to interpret and quicker to complete as the scales are labelled and are shorter too. Both of the types of scales are useful and appropriate each in their own ways for analysis and can provide valuable responses. (Tracy, 2021)

***Reference***

***Tracy, S., (2021). Types of Rating Scales in Quantitative Research. [online] Analythical by Stephen Tracy - An Analytics & Research Blog. Available at: <https://analythical.com/blog/types-of-rating-scales> [Accessed 3 April 2022].***

**Methodology- questionnaire design**

A link to an online Google form would be given to university groups on the social media site Facebook, (Mahdy, 2020)

Participants can expect the survey to take up to 10 minutes to complete.

***Reference***

***Mahdy, M., (2020). The Impact of COVID-19 Pandemic on the Academic Performance of Veterinary Medical Students. Frontiers in Veterinary Science, 7.***

**Methodology Data collection**

Data will be collected utilising excel sheets that will be connected to the Google forms survey, and the survey will be carried out during the period of June to September 2022. (Mahdy, 2020)

***Reference***

***Mahdy, M., (2020). The Impact of COVID-19 Pandemic on the Academic Performance of Veterinary Medical Students. Frontiers in Veterinary Science, 7.***

**Methodology Data Analysis**

The data will be analysed using descriptive statistics as it allows to demonstrate the data in an effective manner, allowing for easier analysis of the data. (Statistics.laerd.com, 2022)

Answers on the Likert scale will be transformed into numerical figures. for example Very High = 5 points, Very Low = 1 point (Mahdy, 2020)

***Reference***

***Mahdy, M., (2020). The Impact of COVID-19 Pandemic on the Academic Performance of Veterinary Medical Students. Frontiers in Veterinary Science, 7.***

***Statistics.laerd.com. (2022). Understanding Descriptive and Inferential Statistics | Laerd Statistics. [online] Available at: <https://statistics.laerd.com/statistical-guides/descriptive-inferential-statistics.php#:~:text=Descriptive%20statistics%20are%20very%20important,simpler%20interpretation%20of%20the%20data.> [Accessed 3 April 2022].***

# Ethical considerations and risk assessment

**Ethics**

As part of the process an ethics review and ethical approval form would need to be submitted as the research will involve human participants. The following should be kept in mind

All participants will be informed of the aim of the study and the expectations for their participations and that their responses will be used for the sole purpose of the study. They will be informed of the amount of time the participation in the study will approximately take. And that they have the right to withdraw from the study at any time. (Resnik, 2022)

***Reference***

***Resnik, D., (2022). What Is Ethics in Research & Why Is It Important?. [online] National Institute of Environmental Health Sciences. Available at: <https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm> [Accessed 4 April 2022].***

**Risk Assessment**

The risk assessment process involves an evaluation of what could cause harm, who/what might be injured, and how. It will assist in determining what risk management measures are required (Essex.ac.uk, 2022).

Relating to the project the risks would be related to reputational risk, health/safety risk including psychological and physical injury risk.

***Reference***

***Essex.ac.uk. (2022). Research risk assessment | University of Essex. [online] Available at: <https://www.essex.ac.uk/student/postgraduate-research/research-risk-assessment> [Accessed 4 April 2022].***

**Risk Assessment -Example**

the following table is a brief guideline to what would be included in the risk assessment. So this includes the risk number the risk description the risk level and mitigation actions.

|  |  |  |  |
| --- | --- | --- | --- |
| Risk Number | Risk Description | Risk Level | Mitigation |
| 1 | Reputational Risk- The reputation of the university could be damaged in the eyes of the researchers if several participants from a specific university’s have claimed that they did not do academically well when the university adopted e-learning practises | High | For this reason, a question was removed from the questionnaire which asked the participant to name their university. |
| 2 | Health and Safety risk- psychological harm could occur to the participants when they undergo the survey, for example if they remember bad experiences with the e-learning, or received low grades which can cause some participants stress | Medium | For this reason participants’ are told that they can leave the study at any time they wish to |
| 3 | Health and Safety risk- Physical Harm; Excessive typing may cause participants to feel tired or cause their hand to hurt | Very Low | The participant does not need to type anything in the survey, they only need to tick boxes/circles |

# Timeline of proposed activities.

The proposed timeline shows the proposed expected start and end date for each deliverable task. So, for the month of May- June the aim is to complete the introduction and literature review. The aim for June is to start the methodology section. As for the data collection this would take the longest time so it is expected that it will take June all the way to September. The analysis should be done from September to October and finally the conclusion should take only a few weeks, leaving a bit time for going over the project and making it perfect before the end of it which would be the 22nd of November.

Table

Description automatically generated

Diagram

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The timeline is presented in a different format. In this format each deliverable/ section includes the start date and it includes sub-headings of what should be included in the sections for guidance.