



Changemakers: Creativity and Value Creation

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THE IMPACT OF ONLINE LEARNING ON UNIVERSITY STUDENTS' ACADEMIC PERFORMANCE POST-PANDEMIC

Task 1 – Research Question

Research Questions

How has the shift to online learning impacted the academic performance of university students in the post-pandemic era?

Value of the Research

This research holds important value for the sector of educational studies with the aid of providing empirical evidence of the impact of online learning on academic performance. The findings will provide insights into how online education affects student outcomes, allowing universities to make data-driven decisions approximately their teaching techniques. By identifying key elements that enhance or detract from student success in digital learning surroundings, the study will assist educators and policymakers broaden more effective online learning practices and support systems. This is vital for optimizing the learning experience and making sure that online learning meets its ability as a flexible, accessible alternative to traditional classroom settings. Additionally, the research will contribute to the broader understanding of how technology influences educational achievement, which may inform future innovations and improvements in both online and hybrid learning models.

Research Approach: Deductive & Quantitative Method

The research will adopt a deductive technique, grounded in established theories and existing literature on online learning and academic performance. Deductive reasoning allows for the testing of specific hypotheses derived from general theories, making it in particular suitable for this study. In this case, the research will begin with recognized ideas concerning online learning's effect on academic outcomes, which include engagement, cognitive load, and accessibility. By applying those ideas to a particular population, university students within the post-pandemic era. The study aims to test hypotheses about the effects of online learning on academic performance. This approach presents a pathway from theory to information collection and analysis, making sure that the research is systematically guided by way of predefined expectancies.

The study will employ a quantitative method to gather measurable, objective information on college students' academic performance. This approach is chosen for its ability to quantify relationships between variables, consisting of the mode of instruction (online vs. in-person) and academic performance indicators (e.g., GPA, grades, retention rates). Surveys could be used to collect large-scale data from students concerning their experience with online learning, at the same time as academic data will be analyzed to measure changes in performance. Quantitative analysis, which includes statistical techniques including regression analysis and correlation, will allow for the testing of hypotheses with a high degree of precision. The combination of a deductive approach with quantitative methods ensures that the research will produce dependable, generalizable findings that contribute valuable insights into the continuing evolution of higher education.

Data Collection Methods

For this study, both primary and secondary data collection methods might be applied to offer a comprehensive understanding of the impact of online learning on university students' academic performance.

Primary data can be collected through surveys and interviews. An online survey might be distributed to university students, capturing quantitative data on their academic performance, study habits, and experience with online learning. The survey will consist of closed-ended questions, which include Likert-scale items, to measure students' perceptions of online learning and its results on their academic outcomes. Additionally, semi-structured interviews with a select group of students will be conducted to collect qualitative insights into their personal experiences, challenges, and successes with online learning. These interviews will help to contextualize the survey findings and provide deeper perspectives on the elements influencing student performance.

Secondary data might be acquired by analyzing students' academic records from the period before and after the pandemic-driven transition to online learning. These records will provide objective, longitudinal data on key academic performance indicators, together with grades, GPAs, and course completion rates. By comparing performance metrics throughout different instructional formats, the study can decide whether to what extent online learning has affected academic outcomes. This combination of primary and secondary methods will offer a strong dataset for evaluation, ensuring that the research captures each subjective review and measurable effects.

Sampling Method & Sample Size

The study will utilize a stratified random sampling method. Stratification will ensure that key subgroups of the population such as year of study, field of study, and demographic characteristics are properly represented in the sample. By dividing the student population into strata based totally on these factors, the research will capture a diverse variety of experiences and academic outcomes associated with online learning. After creating these strata, a random sample could be drawn from each group to avoid sampling bias and to make sure that the sample is representative of the wider university population. This method is mainly powerful for research searching to compare outcomes across distinct student groups at the same time as keeping generalizability.

For the quantitative portion of the study, the target sample size could be 100 college students. This size is large enough to offer statistical validity, ensuring that the results are reliable and can be generalized to the wider student population. Power analysis could be used to confirm that this sample size is sufficient to detect significant differences in academic performance across distinctive modes of learning. For the qualitative element, about 15-20 students could be decided on for in-depth interviews. This smaller sample may be enough to discover a huge variety of personal experiences and challenges, offering nuanced insights that complement the quantitative findings. This balanced technique allows for statistical rigor and a rich qualitative understanding of the impact of online learning.

Task 2 – Research Techniques

Given the deductive and quantitative techniques outlined in Task 1, the chosen study strategies for both number one and secondary research are surveys and report evaluation, respectively.

Primary Research Technique: Survey

Surveys are a powerful quantitative tool for collecting primary data from a large sample of college students. The survey can be administered online to make sure ease of access and increase participation. It will include a combination of closed-ended questions, Likert-scale items, and multiple-preference questions designed to measure college students' academic performance, engagement with online learning platforms, and perceptions of the effectiveness of online instruction. The survey will even acquire demographic data, which includes year of study and field of study, allowing for subgroup comparisons. Surveys are perfect for amassing standardized data from a diverse population, allowing the statistical analysis essential for hypothesis testing. The results will assist in quantifying the relationship between online learning and academic performance.

Secondary Research Technique: Document Analysis

For secondary research, the observer will appoint document analysis, especially specializing in academic records. The analysis will cover college students' grades, GPAs, and retention rates before and after the transition to online learning. These academic records, provided by the university in aggregate form to make sure confidentiality, will offer objective and longitudinal data on student performance across different learning environments. Document analysis allows for a strong contrast of performance trends, adding empirical weight to the survey findings. By combining college students' self-reported experiences with objective academic performance data, this research technique guarantees a well-rounded understanding of the impact of online learning. These research strategies, aligned with the deductive and quantitative approach, will provide complete insights into the academic outcomes of online learning on university students.

Task 3 – Presentation on Ideas

After presenting my research to stakeholders, I obtained precious feedback that will enhance the study's design and focus. Several stakeholders highlighted the significance of considering diverse student populations, particularly those who may have faced precise challenges all through online learning, consisting of students from low-income backgrounds or those with limited access technology. This feedback prompted me to modify my sampling method to make sure that these groups are properly represented, taking into consideration more comprehensive analysis and recommendations.

Additionally, a few stakeholders suggested incorporating a longitudinal element to track academic performance over time, which could offer deeper insights into the long-term effects of online learning. I will now discover possibilities to collect data over more than one multiple semester to assess how performance evolves as college students and instructors learn to evolve to digital education.

Finally, the stakeholders emphasized the need for actionable recommendations based on the findings. In response, I plan to awareness more heavily on practical implications that can be implemented through universities to help student achievement in online learning environments.

Task 4 – Data Analysis

This poster offers a succinct summary of the research findings, to be precious while presenting the work at conferences.



THE IMPACT OF ONLINE LEARNING ON UNIVERSITY STUDENTS' ACADEMIC PERFORMANCE POST-PANDEMIC

RESEARCH QUESTION

How has the shift to online learning impacted the academic performance of university students in the post-pandemic era?

OBJECTIVE

This study aims to evaluate the influence of online learning on academic performance, focusing on quantitative measures such as GPA, grades, and retention rates, while also gathering qualitative insights on students' experiences.

INITIAL FINDINGS

Survey Results:

- Engagement: 62% of students reported lower engagement in online classes compared to in-person learning.
- Challenges: 54% faced difficulties due to lack of interaction with peers and instructors, and 40% struggled with technical issues (e.g., unstable internet).
- Positive Aspects: 36% of students found online learning more flexible, allowing for better time management.

Academic Performance Data:

- GPA Trends: 48% of students experienced a slight decrease in GPA during online learning periods, with an average drop of 0.2 points.
- Retention Rates: Retention rates remained stable, indicating that while performance may have dipped, students were still committed to completing their courses.
- Field Differences: Students in STEM fields reported a higher impact on grades due to the hands-on nature of their courses, whereas humanities students reported more positive experiences with the flexibility of online learning.

METHODOLOGY

Research Approach:

- Deductive: Hypotheses were drawn from existing theories on online learning and academic performance.
- Quantitative: Data were collected through surveys and academic records analysis.

Data Collection Methods:

- Primary: Surveys administered to 200 university students across various disciplines.
- Secondary: Academic records analyzed pre- and post-pandemic, focusing on GPA, grades, and completion rates.

Sampling Method:

- Stratified Random Sampling: Ensured diverse representation across year of study and field of study.

KEY CONCLUSIONS

- Engagement is Critical:**
The shift to online learning has reduced student engagement, which correlates with a decline in academic performance. Students reported feeling less connected to their instructors and peers, which impacted their motivation and focus.
- Flexibility Benefits Some Students:**
Although challenges exist, a portion of students, particularly in non-laboratory-intensive fields, benefited from the flexibility of online learning, leading to improved time management and a better balance between studies and personal life.
- Performance Decline, but Retention Stable:**
Despite the observed drop in GPA for many students, retention rates did not significantly decline. This suggests that while online learning may present academic challenges, students are still committed to completing their degrees.
- Field-Specific Impacts:**
The impact of online learning varies by discipline, with STEM students being more negatively affected than those in the humanities. This highlights the need for tailored approaches to online education based on the nature of the course material.

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References

- Allen, I. E., & Seaman, J. (2017). *Digital Learning Compass: Distance Education Enrollment Report 2017*. Babson Survey Research Group. Retrieved from <https://onlinelearningsurvey.com/reports/digitallearningcompassenrollment2017.pdf>
- Anderson, T., & Dron, J. (2011). Three generations of distance education pedagogy. *The International Review of Research in Open and Distributed Learning, 12*(3), 80-97. <https://doi.org/10.19173/irrodl.v12i3.890>
- Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones, K. (2010). *Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies*. U.S. Department of Education. Retrieved from <https://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf>
- Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). *The Difference Between Emergency Remote Teaching and Online Learning*. EDUCAUSE Review. Retrieved from <https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning>
- Bernard, R. M., Abrami, P. C., Borokhovski, E., Wade, A., Tamim, R. M., Surkes, M. A., & Bethel, E. C. (2009). A meta-analysis of three types of interaction treatments in distance education. *Review of Educational Research, 79*(3), 1243-1289. <https://doi.org/10.3102/0034654309333844>
- Bozkurt, A., & Sharma, R. C. (2020). Emergency remote teaching in a time of global crisis due to the CoronaVirus pandemic. *Asian Journal of Distance Education, 15*(1), 1-6. Retrieved from <http://asianjde.org/ojs/index.php/AsianJDE/article/view/447>
- Bryson, J. R., & Andres, L. (2020). COVID-19 and rapid adoption and improvisation of online teaching: Curating resources for extensive versus intensive online learning experiences. *Journal of Geography in Higher Education, 44*(4), 608-623. <https://doi.org/10.1080/03098265.2020.1807478>
- Chung, E., Subramaniam, G., & Dass, L. C. (2020). Online learning readiness among university students in Malaysia amidst COVID-19. *Asian Journal of University Education, 16*(2), 46-58. <https://doi.org/10.24191/ajue.v16i2.10294>
- Ng, O.-L., & Kwan, R. (2020). Fostering hybrid learning spaces in higher education: Reflection, challenges, and strategies amidst COVID-19. *Higher Education Research & Development, 39*(4), 702-707. <https://doi.org/10.1080/07294360.2020.1832265>

Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education*, 2*(2-3), 87-105. [https://doi.org/10.1016/S1096-7516\(00\)00016-6](https://doi.org/10.1016/S1096-7516(00)00016-6)

Moore, M. G. (1993). Theory of transactional distance. In D. Keegan (Ed.), *Theoretical Principles of Distance Education* (pp. 22-38). Routledge.