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## **Introduction**

- Universities in South Africa have used blended learning since the 2015-16 Fees-must-fall protests.
- Some universities in South Africa struggled with blended learning due to limited resources and budgets.
- The COVID-19 pandemic forced a shift to fully remote online education.
- The digital divide prevalent in South African institutions was highlighted by the pandemic.
- Traditional contact and face-to-face tuition were replaced with online platforms.

## **Methodology**

- The study conducted a detailed investigation of students' experiences in 2021.
- The study focused on two mathematics classes, with 37 level 2 students and 180 level 3 students.
- A sample of 23 participants were selected for the study.
- Data were collected through open-ended questionnaires and telephonic semi-structured interviews.
- The questionnaires were completed individually by participants.
- Interviews were conducted to delve deeper into students' experiences, using probing questions where applicable.
- Data were collected towards the end of 2021 to provide a balanced view of the students' experiences throughout the academic year.

## **Results**

- In the pre-COVID era, blended learning was limited at rural universities.
- Sub-point: Digital resources were available but not fully utilized.
- Sub-point: Students encountered online education for the first time during the pandemic.

- Microsoft Teams was used for eLearning and found to be convenient for recording and revisiting lectures.
- Recording lectures allowed students to refer back to the material if they did not understand something initially.
- Challenges specific to mathematics included difficulty in writing equations and drawing diagrams during online classes.
- Blackboard was used for timed assignments and e-assessment methods.
- Students faced issues with cheating during e-assessments.
- Network problems affected the submission of assessments.
- Formative assessments, such as quizzes and pre-tests, were used to prepare students for summative assessments at the end of the course.

### **Discussion**

- The study highlighted the importance of digital transformation in education.
- Online education was found to complement traditional learning methods.
- Both students and instructors needed to adapt to digital tools and methodologies to ensure effective teaching and learning.
- The study discussed the future implications of online education.
- There is potential for continued use of online education post-pandemic.
- Digital tools have become integral to modern education, providing flexibility and accessibility.

### **Conclusion**

- The COVID-19 pandemic accelerated the shift to online education, highlighting the importance of digital tools in modern education.
- Online education offered benefits such as accessibility and convenience for students.
- Digital infrastructure investments made during the pandemic should be maintained to prepare for future disruptions.
- The future of higher education will likely involve a continued integration of online education and traditional methods.

- Online education and traditional classroom learning should complement each other to create a robust and flexible education system.
- Preparing for potential future disruptions requires maintaining a strong digital infrastructure.