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CONNECT

**Turning Challenges into Opportunities:
Research and Education Success
Stories During Covid-19**

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A review of e-learning in COVID-19 era: the CASE of Copperbelt University School of Information Technology



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Introduction

- **About Copperbelt University**
 - The University has a total of 8 schools and 4 Directorates with over 10,000 students.
- **Background**
 - Moodle and Astria (Distance Students only) Learning Platforms
 - Moodle is open source but, the University policy allows only students that have paid a certain percentage of the fees to have access
 - Astria learning platform requires extra licencing fees to host more students
- The purpose of this research was to evaluate the successes, failures and challenges of offering e-Learning in the School of information Technology at Copperbelt University using alternative e-learning platforms.

Research Objectives

- Asses the value of YouTube, WhatsApp and Google Classroom as alternative e-learning platforms for freshmen undergraduate students during COVID-19.
- Evaluate the overall satisfaction of e-learning in Introduction to Computing course for first year undergraduate students during COVID-19.
- Identify the challenges of implementing emergency e-learning during COVID-19 pandemic from the lecturers and students perspective.

Literature Survey

- The term e-learning refers to learning by using electronic technology to access educational materials and curriculum outside the classroom walls (Amjad & Marzouq, 2021)
 - Can be conducted online (no face to face)
 - Mixed learning (A blend of online and direct communication)
- YouTube
 - Integrating YouTube videos into Teaching and Learning activities is useful to the students (Zulnaidi & Nor, 2020).
 - (Zulnaidi & Nor, 2020) notes that educators are encouraged to create videos and upload them on YouTube to improve the learning experiences of their students
- Google Classroom
 - Google Classroom is a free web service developed by Google for schools that aim to simplify creating, distributing, and grading assignments. The primary purpose of Google Classroom is to streamline the process of sharing files between teachers and students. Google Classroom enables teachers to create an online classroom area in which they can manage all the documents that their students need(Mike,2020).

Literature Survey cont. Related Works

Author	Paper	Year	Platforms used	Challenges
(Mohammad, 2020)	Challenges of e-Learning during the COVID-19 Pandemic Experienced by EFL Learners	2020	-Blackboard tool, WhatsApp, Email Zoom, Google Meet, Microsoft Teams	- internet Connectivity, Online access& materials downloading
(Lisa, et al., 2020)	Student perspective of classroom and distance learning during COVID-19 pandemic in the undergraduate dental study program Universitas Indonesia	2020	- Moodle-based learning management system, - Microsoft Teams, Google meets, Zoom	-unstable internet connection, - extra financial burden for internet bundles, - student readiness to the new learning method, time management.
(Dinu & Rodica, 2020)	The Impact of the COVID-19 Pandemic on the Use of Digital Technologies in Ensuring the Efficient e-Learning Process at the Technical University of Moldova	2020	-Moodle, Microsoft Teams, one drive	-Lack of home computers for teachers, Lack of Internet services, Lack of a unique network in student dormitories and study blocks

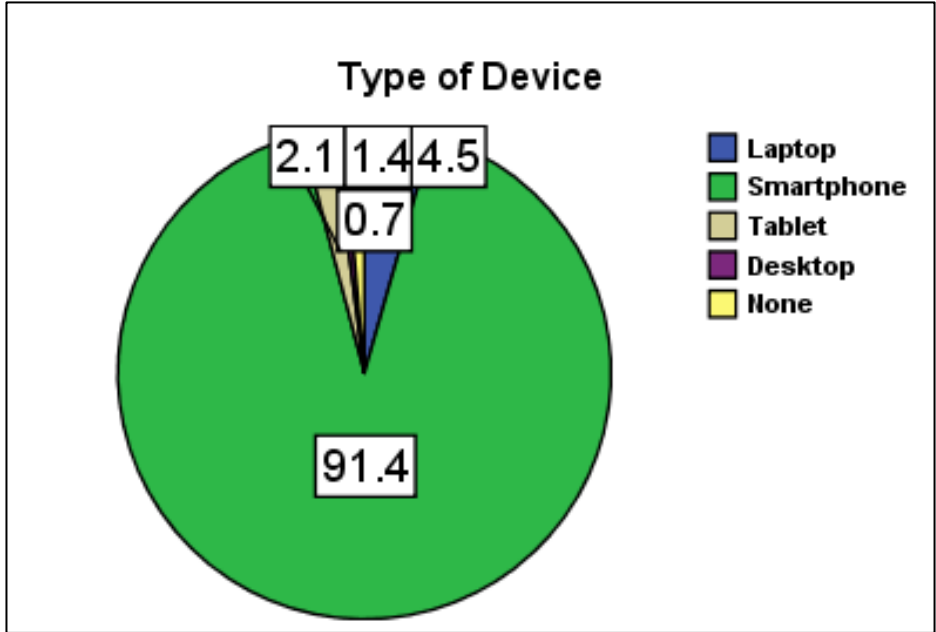
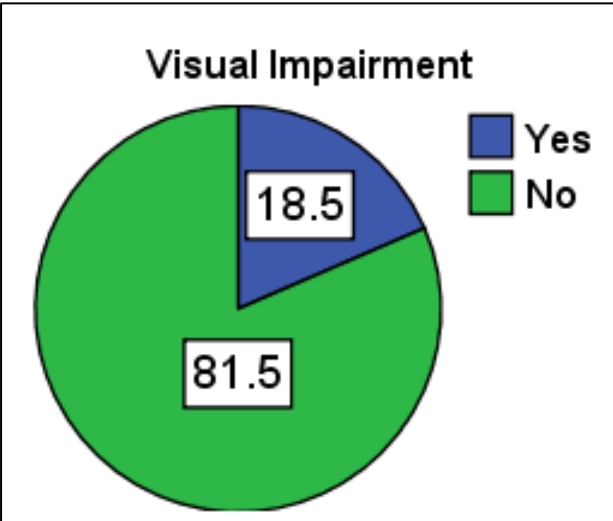
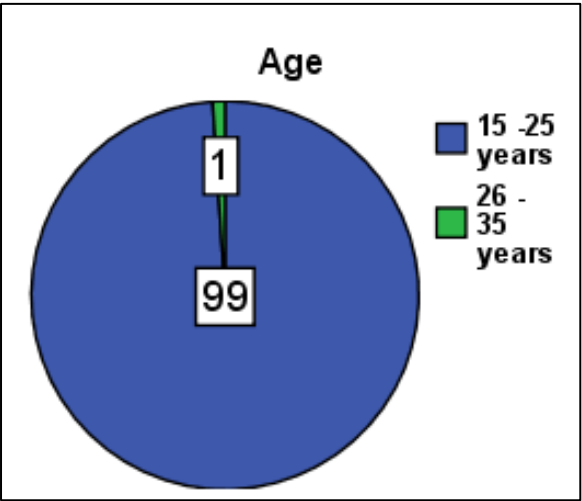
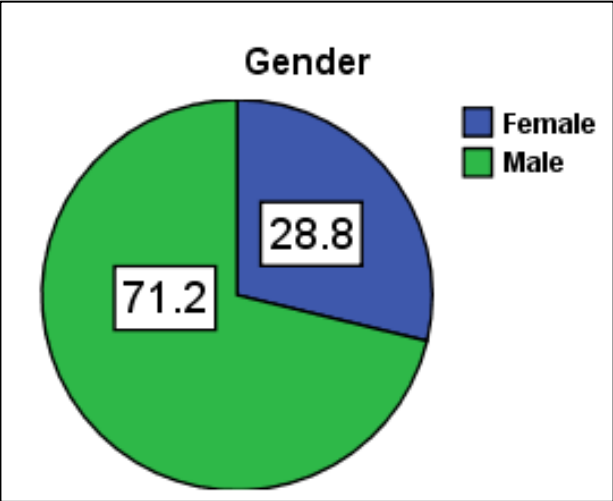
Methodology

- A mixed research approach was used to assess the objectives
- Setup
 - A YouTube channel was created to host recorded videos of lectures
 - Created a class on Google classroom with six separate groups of students
 - Each group had a WhatsApp group for communication managed by the Class Representative
 - Term One: Blended learning was conducted and a physical Test was administered
 - Term Two: Physical Learning and a physical Test was administered
 - Term Three :Online learning only and an online Test was administered

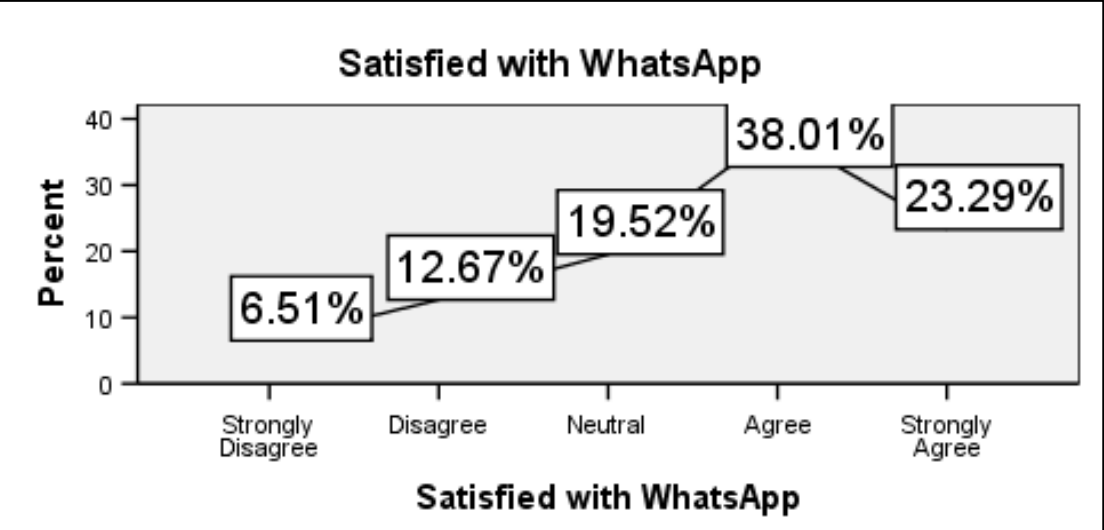
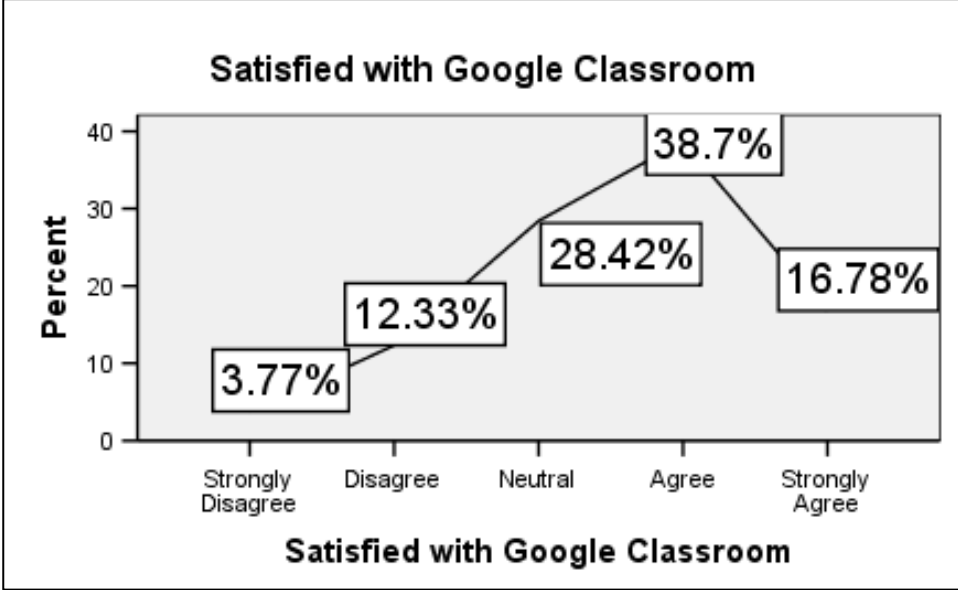
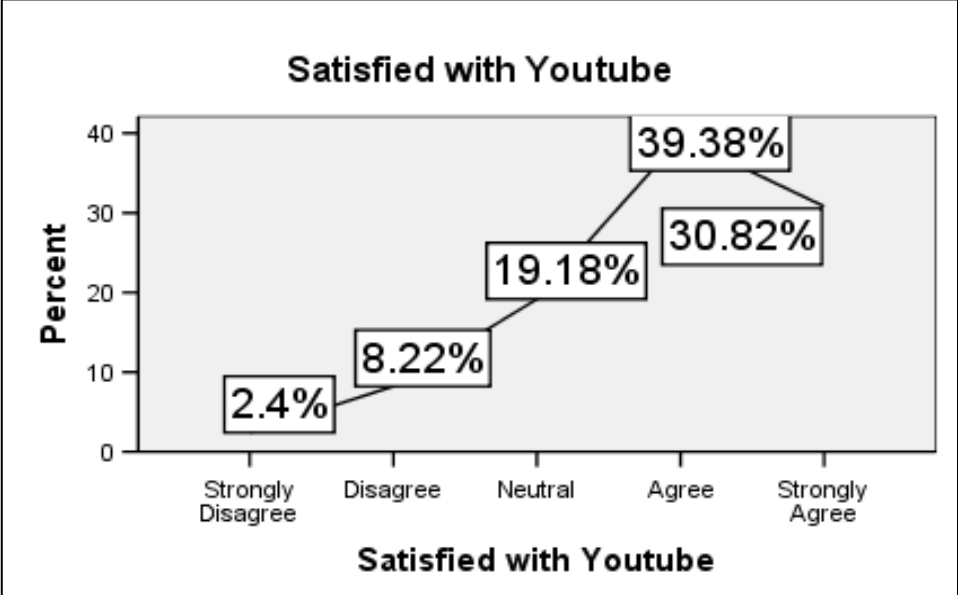
Methodology cont.

- Sample size of 292 students from a population of 1070
- The student survey was conducted using an online questionnaire at the end of the 2020/2021 academic year
- Structured Interviews were conducted with the lecturers teaching the course at the end of the 2020/2021 academic year
- Analysis was conducted using SPSS

Research Results : demographics



Research Results: % satisfied with platform

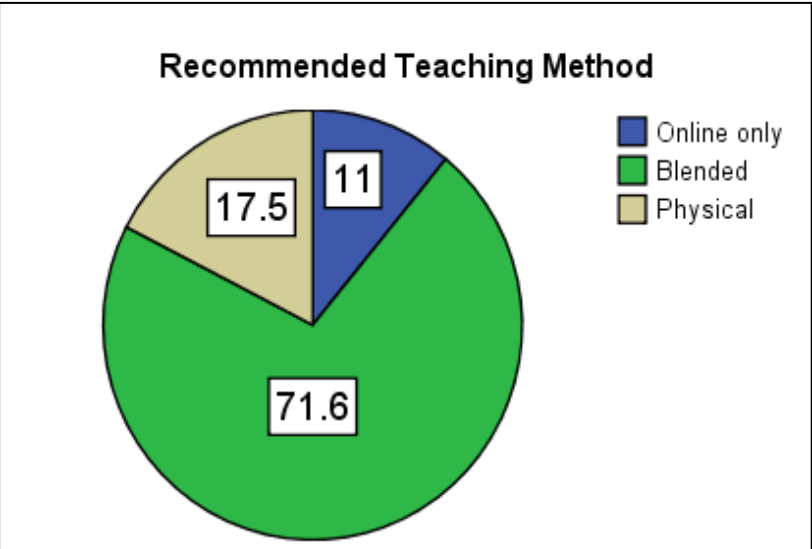
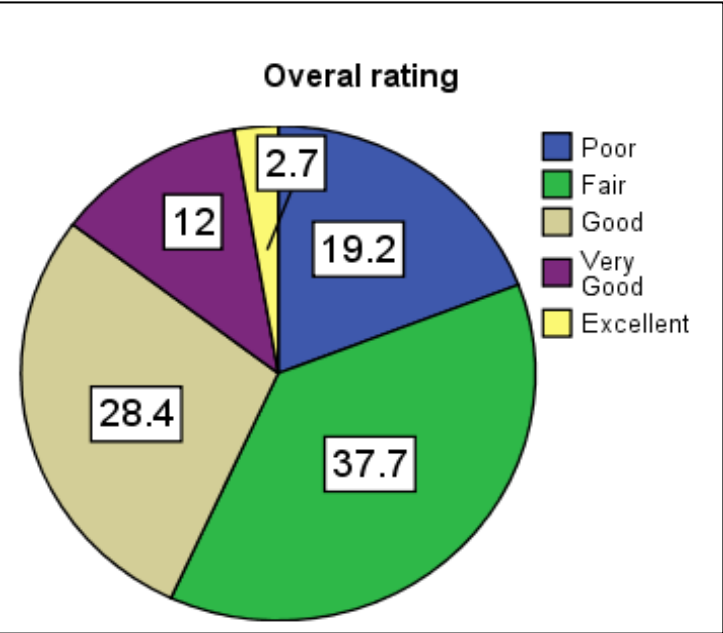
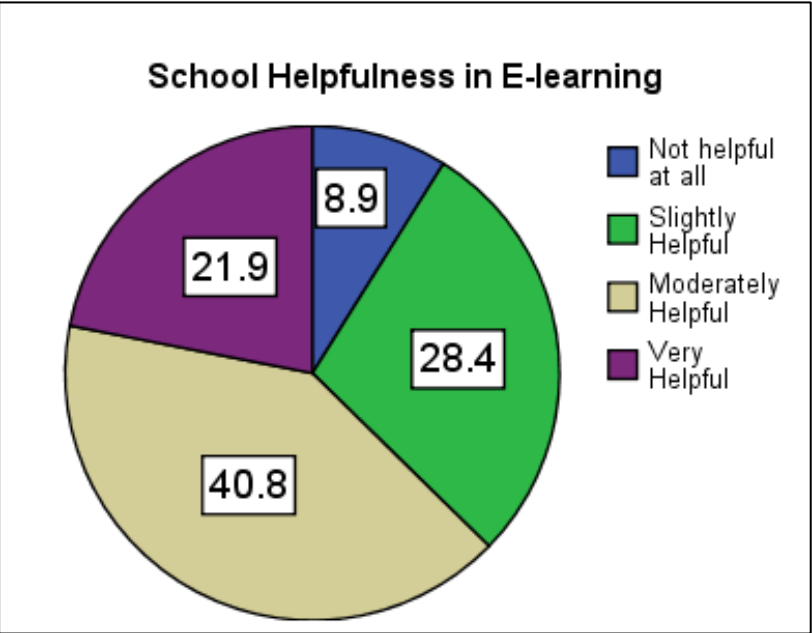


Research Results: % satisfied with platform cont.

Statistics

		Satisfied with Youtube	Satisfied with Google Classroom	Satisfied with WhatsApp
N	Valid	292	292	292
	Missing	0	0	0
Mean		3.88	3.52	3.59
Std. Deviation		1.017	1.030	1.165
Variance		1.034	1.061	1.356
Skewness		-.785	-.464	-.638
Std. Error of Skewness		.143	.143	.143
Kurtosis		.110	-.274	-.420
Std. Error of Kurtosis		.284	.284	.284

Research Results: % School Helpfulness, Overall Rating and Recommended learning in a pandemic



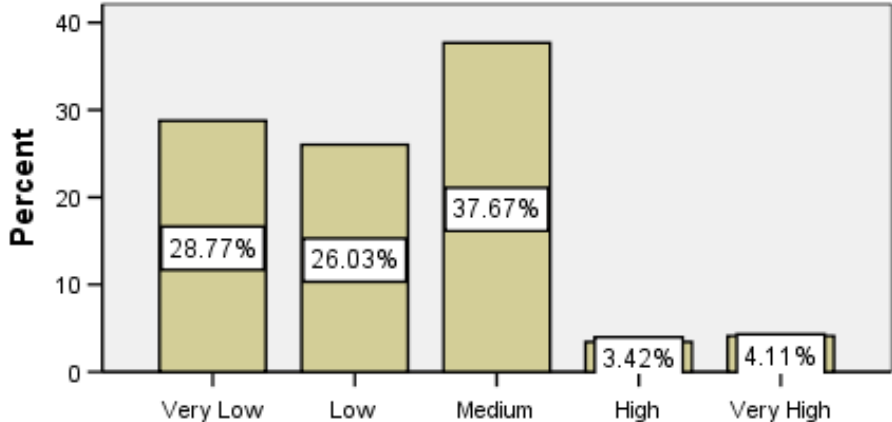
Results: % School Helpfulness, Overall Rating and Recommended learning in a pandemic cont.

Statistics

		School Helpfulness in E-learning	Overall rating	Recommended Teaching Method
N	Valid	292	292	292
	Missing	0	0	0
Mean		2.76	2.41	2.07
Std. Error of Mean		.052	.060	.031
Std. Deviation		.896	1.017	.530
Variance		.803	1.034	.281
Skewness		-.251	.422	.069
Std. Error of Skewness		.143	.143	.143
Kurtosis		-.703	-.353	.530
Std. Error of Kurtosis		.284	.284	.284

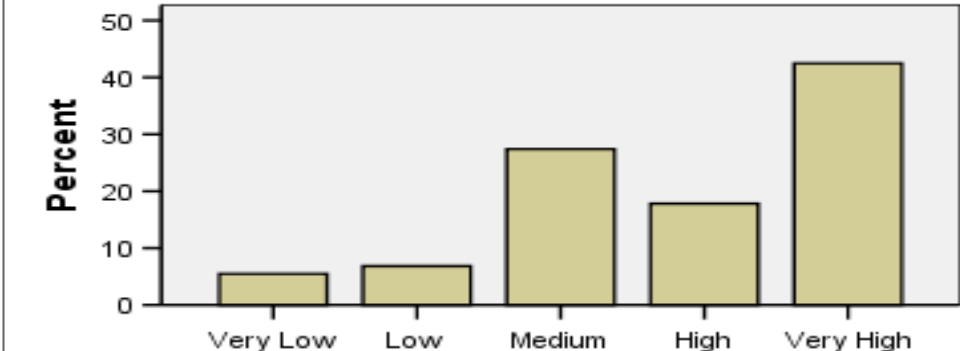
Results : Challenges

Lack of Knowledge of Platforms



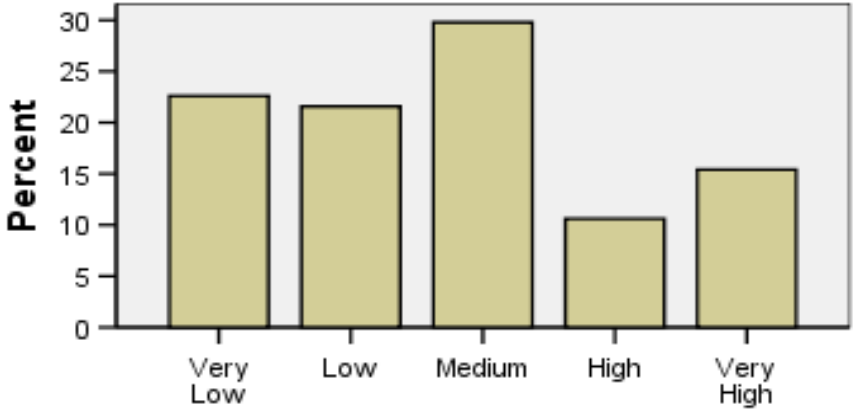
Lack of Knowledge of Platforms

Cost of Bundles



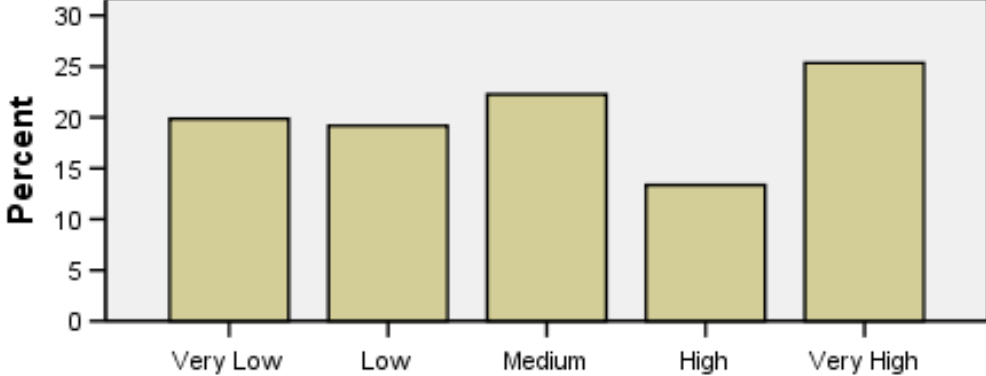
Cost of Bundles

Mobile network Speed



Mobile network Speed

No access to campus network



No access to campus network

Results: Lecturers perspective

■ Challenges

- Internet connection challenges when working from home, required more time and effort to prepare for classes, less personal interaction for students that required extra assistance

■ Successes

- complete coverage of Syllabus, continuous learning despite the COVID-19 pandemic, faster grading of automated assessments,
- pass rates for continuous assessments where within expected standards

	Blended Learning Assessment	Physical Learning assessment	Online Learning assessment
Pass Rate	75%	96%	83%
Average Score	57%	75%	61%

Conclusion

- Blended learning approach was the most ideal type of e-learning supported by both Lecturers and Learners
 - There was a need to place more access points around the main University campuses to increase access
- YouTube is a useful tool to provide continuous learning beyond the classroom if lecture videos are well prepared
 - It would be useful to incorporate YouTube and WhatsApp in existing Moodle platform provided that the restriction policy is made flexible
- Results showed that e-learning was conducted successfully despite the challenges that were faced by both learners and Lecturers

Future Works

- Identify ways of packaging e-learning content that takes into account the size of device, possible visual impairment of students and mobile data bundle requirements for off campus access

References

1. Amjad, B. H. & Marzouq, A., 2021. E-Learning during COVID-19 pandemic; Turning a crisis into opportunity: A Cross-sectional study at the university of Jordan. *Annals of Medicine and Surgery*, 70(2021), pp. 1-7.
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4. Lisa, R. et al., 2020. Student perspective of classroom and distance learning during COVID-19 pandemic in the undergraduate dental study program Universitas Indonesia. *BMC Medical Education*, October.392(2020).

THANK YOU