

# Students' readiness for e-learning during the COVID-19 pandemic in a South-East Asian university: a Rasch analysis

E-learning during the COVID-19 pandemic

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## Abstract

**Purpose** – Universities have shifted from face-to-face learning environments to e-learning in response to the COVID-19 pandemic. However, the sudden change to online teaching has raised concerns among lecturers about students' readiness for e-learning. This study investigates students' readiness for e-learning during the COVID-19 pandemic and specifically assesses any significant differences between students' gender, age, ethnicity, level of education, field of study and their readiness for an e-learning environment.

**Design/methodology/approach** – The study employed a non-experimental quantitative research design. Data were gathered from a sample of 298 undergraduate and 101 postgraduate students. WINSTEPS Rasch model measurement software was used to determine the reliability and validity of the research instrument. Descriptive, inferential statistics and differential item functioning (DIF) test were used to assess students' readiness for an e-learning mode of instruction with the latter specifically analysing students' demographic factors and their readiness for an e-learning environment.

**Findings** – Findings identified that most students are ready for an e-learning mode of instruction. Further analysis indicated that there were differences in students' readiness for e-learning based on their demographic profiles.

**Research limitations/implications** – This study provides insights on students' readiness towards e-learning, discusses implications for e-learning practices in higher education institutions during the COVID-19 pandemic and offers recommendations for future research.

**Originality/value** – This study provides evidences of students' readiness for e-learning in respect to their gender, age, ethnicity, level of education and field of study. This information could help lecturers to reflect on their own teaching practices, adjust their teaching approaches and subsequently, develop appropriate e-learning methods that best suit the student diversity in their classrooms.

**Keywords** E-learning, Readiness, COVID-19 pandemic, University, Rasch analysis

**Paper type** Research paper

## Introduction

Higher education institutions across the world have responded to the COVID-19 pandemic with cancellations of lectures and campus activities to avoid mass gatherings (Ebner, 2020). Various mitigation efforts such as adopting flexible online learning and e-assessment strategies were also implemented to reduce the impact of the pandemic on teaching and learning delivery (Rapanta *et al.*, 2020). Malaysian universities have also adopted the ad hoc and inevitable measure of shifting face-to-face learning environments to e-learning, with students required to study at home as an effort to contain the spread of COVID-19 in the country (Adams and Dewitt, 2021). The sudden change to e-learning environment has raised

