


# Exploring Students' Perspectives on the Implementation of a Self-Organised Learning Environment: SOLE via Mobile Devices

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## ABSTRACT

This critical participatory action research explored undergraduate female Saudi students' perspectives on the implications of a self-organised learning environment (SOLE) via their mobile devices. Data was gathered from interviews and focus groups using a convenience sample of 27 undergraduate students and the researcher's reflective journals. The proposed intervention gave students opportunities for engagement and enhanced a spirit of cooperation, which led to the students enjoying their classes. Furthermore, SOLE encouraged the students to evaluate their ideas before posting them. Participating in SOLE helped the students to understand and recall the relevant course content. However, some challenging aspects, e.g., misleading information, emerged during the study's first phase, along with some technical issues.

## KEYWORDS

Covid-19, Educational Technology, Innovative Teaching, Mobile Learning, Self-Organised Learning Environment (SOLE), Undergraduate Study Strategies

## INTRODUCTION

Covid-19 and social distancing impacted education, which resulted in an unprecedented transition to online learning (Cahapay, 2020; Murphy, 2020; Teräs et al., 2020; Neuwirth et al., 2021). During the Covid crisis, educational institutions worldwide had to utilize the available platforms for e-learning to mitigate the spread of the virus (Maatuk et al., 2022). This abruptly emerging transition was referred to as “emergency remote teaching” instead of “online learning” (Hodges et al., 2020). The primary aim in such circumstances was to ensure prompt and reliable access to instructional support during the crisis rather than focusing on creating a robust educational environment (Hodges et al., 2020). The sudden online transition posed various challenges, as was emphasized by teachers and students

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(Hafeez et al., 2021). Some of these challenges were attributed to technical issues such as inadequate internet connectivity (Lockee, 2021). Additional challenges arose regarding instructional strategies due to limited budgets and insufficiently skilled staff, hindering the implementation of active learning (Hafeez et al., 2021).

Globally, this situation was temporary; for example, universities in Saudi Arabia reopened in 2021. However, Covid-19 restrictions created limitations in the classroom, such as physical distancing and restricted sharing of educational materials, to protect the learners' health and prevent the spread of the disease. These measures hindered collaborative tasks and active learning for in-person university students. Furthermore, after months of pandemic isolation, students were hesitant to interact with others. Therefore, innovative teaching strategies were urgently needed to overcome these challenges and promote active student engagement.

As a solution, this research proposes an innovative method to implement a self-organized learning environment (SOLE) using mobile applications (apps) to support active learning and to enhance student engagement during the unusual circumstances of Covid-19 restrictions in university classrooms. SOLE is known as an innovative pedagogy in which the students can choose their group and solve problems with minimal intervention from the educator.

This study aims in particular to explore Saudi third-year undergraduate female students' perspectives on the SOLE pedagogical approach through mobile devices during in-person learning with Covid-19 restrictions. The study addresses a main research question (RQ1) and two sub-questions (SQ1 and SQ2):

**RQ1:** What are undergraduate students' perspectives on the implementation of the SOLE pedagogical approach via the use of mobile apps?

**SQ1:** What are undergraduate students' perspectives on the positive aspects of the implementation of the SOLE pedagogical approach via the use of mobile apps?

**SQ2:** What are the undergraduate students' perspectives on the negative aspects of the implementation of the SOLE pedagogical approach via the use of mobile apps?

## RELATED WORK

### What is SOLE?

SOLE is a modern pedagogy that promotes the cultivation of 21st-century skills in students (Weisblat et al., 2019). Originating from Mitra's "hole in the wall" concept, this innovative approach seeks to tackle educational challenges in regions with restricted teacher availability and appropriate learning environments (Mitra et al., 2005, p. 407). Mitra initially introduced the idea, in which children independently access a public computer to search for information and learn flexibly, with or without a mediator.

The study by Weisblat et al. (2019, p. 66) reports:

*SOLE is an innovative pedagogical technique that disrupts the traditional didactic, teacher-centered classroom and provides a framework for a student-centered approach to learning. With this approach, teachers and students become co-navigators in a classroom practice.*

Mitra identified three stages in the SOLE approach (see Fig. 1), which are: first, students are given a big question to think about, which leads them to pose more related questions; second, the students choose their group to investigate and to answer the big question; and, finally, each group presents and reviews their answers (StartSOLE, 2016).

Curiosity is the key to learning within this approach (Ma, 2018; Preston et al., 2018); therefore, Mitra emphasized the importance of open-ended, significant, challenging, and interesting enquiry

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