

Immersing Learners: Using Immersive Technologies in the classroom to create immersive learning activities and increase student engagement.

Zina Cordery

Edith Cowan University
z.cordery@ecu.edu.au

Abstract. The proposed research aims to investigate the use of Immersive Technologies in the classroom through supporting teachers via a sustained Professional Learning (PL) program that seeks to introduce them to new technologies that can be implemented into the classroom to create innovative learning opportunities. These learning opportunities will utilise Virtual Reality and Augmented Reality technologies to create immersive learning experiences across all year levels and subject areas with little cost to schools and parents. The project will use a Design-Based Research methodology to conduct a multi-phase research project that will see primary school teachers engaging in a PL workshop which will introduce them to the concept of Immersive Technologies and how they can be used in education. They will work collaboratively to design classroom learning activities utilising these technologies during the workshop and after the workshop, teachers will further develop and implement these immersive learning activities in their classrooms, with on-going support provided by the researcher. The teachers will reflect on the implementation of these technologies in their classroom, the activities conducted and share their perceptions of the educational benefit of Immersive Technologies. The proposed research seeks to educate and support teachers in the use and implementation of emerging Immersive Technologies, through a transformative PL program and understand how these technologies can benefit students learning and engagement while developing key 21st-century skills.

Keywords: Immersive Technology; Virtual Reality; Augmented Reality; Education; Professional Learning; TPACK; Educational Technology.

Introduction

The last 30 years has seen great advances in modern day technologies; personal computers, the Internet, mobile phones and other devices (1). Recently, Immersive Technologies like Virtual Reality and Augmented Reality has provided even greater opportunity and access to information. These technologies have changed how society works, plays and communicates. (1) Education has seen a steady uptake of these new technologies since the 1990s (2) and this has changed the way teachers teach and learn. Therefore, it has become very important for educators to learn about technologies and how they can support learning. Teacher participation in Professional Learning is a critical part of their on-going growth as an educator (3). Many Professional Learning

opportunities are presented as one-off workshops or conferences whereby the teachers attend to learn about a valuable teaching strategy, or about changes in their curriculum or policies. Teachers usually return to their school with little to no support to help them implement their new knowledge into their teaching practice (4). The use and implementation of Technology particularly, poses a challenge for teachers to integrate into their teaching due to many limiting factors such as, meaningful technology integration due to a lack of Technological, Pedagogical, and Content Knowledge. (2).

Developing a supportive Professional Learning Framework to skill teachers in Immersive Technologies

Research Design

This research project will use a multiphase approach to support primary school teachers in implementing Immersive Technologies in their teaching.

Phase 1

The first phase will use a Design-Based Research methodology. A Co-Design Professional Learning workshop will introduce teachers to the concepts of Immersive Technologies which includes Virtual Reality, Augmented Reality and digital 3D objects and simulations. Teachers will see and experience how they can be used in their classroom to increase student engagement. They will learn new teaching strategies and develop learning activities utilising these technologies which will immerse their students in learning. In this phase, multiple data items will be collected, including a pre-workshop online survey and artefacts produced during the workshop for qualitative data analysis.

Phase 2

The second phase will collect qualitative data on the teachers' reflection on the use and implementation of these technologies in their classroom and their perceptions of the educational benefit of Immersive Technologies. This will be done through an online survey to capture as many of the participants as possible. Teachers will be invited to participate in a focus group interview, designed to better understand their experiences in creating immersive learning experiences and reflect on the impact this has had on student engagement.

References

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