Chapter 6
Introduction of ACTA in Educational Settings

ABSTRACT

This chapter explores the application of Applied Cognitive Task Analysis (ACTA) within educational settings, focusing on two distinct case studies that demonstrate its versatility and effectiveness. The first case study examines Electronic Training for Professional Development, highlighting how ACTA can enhance the design and delivery of digital training programs, ensuring they meet the evolving needs of professionals in various fields. The second case study delves into Developing Pedagogical Practices of Microlearning Educational Experience in Higher Education. It showcases how ACTA can inform the development of innovative microlearning strategies, leading to more personalized, engaging, and effective learning experiences for students in higher education. By analyzing these case studies, the chapter underscores the potential of ACTA to revolutionize educational practices, providing educators and trainers with robust tools to optimize learning outcomes and foster continuous improvement in educational environments.

INTRODUCTION

As the educational landscape continues to evolve, the need for more effective and targeted instructional strategies has become paramount. In this context, Applied Cognitive Task Analysis (ACTA) provides a structured method to identify and address the cognitive demands placed on learners and educators in various educational environments. By breaking down complex tasks and analysing the cognitive skills

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required to perform them, ACTA offers valuable insights into how educational programs can be designed to better support learning and professional development.

In this chapter, we explore the introduction of ACTA into two critical educational settings: electronic training systems for professional development and microlearning pedagogical practices in higher education.

Section 6.1 focuses on the application of ACTA in the design and implementation of an electronic training system aimed at enhancing professional development. As professionals increasingly turn to online platforms for continuous learning, it is crucial to understand the cognitive challenges they face when interacting with these systems. ACTA helps identify these challenges and provides strategies to design training systems that are more intuitive, effective, and aligned with the learners' professional needs.

Section 6.2 shifts the focus to the use of ACTA in developing microlearning pedagogical practices within the context of higher education. Microlearning, which delivers content in concise, manageable units, has gained significant popularity for its flexibility and adaptability to modern learners. ACTA plays a vital role in ensuring that these microlearning experiences are designed to meet the cognitive demands of students, promoting engagement, retention, and the practical application of knowledge.

This chapter introduces the key ways in which ACTA can be utilized to optimize educational strategies in both professional development and higher education settings. By applying ACTA to these contexts, educators and instructional designers can create more effective, learner-centred environments that foster meaningful learning outcomes.

6.1 Electronic Training System for Professional Development

In order to boost the economy of any country, improving the quality of human resources that universities produce is vital. Thus, organizing and administering professional development activities among the educators should become a major agenda. However, in the rapid growth of information and communication technology, the deliverables of electronic training system were obstructed by problems that are related to the training needs and design, which are influenced by culture, religious and technology resistance. This radical change of technology in training has enable educators to participate in online learning process without having to attend a conventional facility (Ismail, Zaharudin, Hashim, & Ariffin, 2020). Electronic training system provides opportunities for continuous learning for educators