Abstract

This research paper addresses a pertinent challenge encountered by lecturers in higher education institutions efficiently managing and analyzing the substantial volume of student lecture reflection data. To overcome this issue, we propose a novel knowledge acquisition system that amalgamates the capabilities of Large Language Models (LLM) with the invaluable tacit knowledge possessed by lecturers, enabling the inference of solutions. The process involves meticulously extracting textual information from student reflections and applying a multilingual BERT model for precise categorization. The acquired knowledge is subsequently stored within a sophisticated web-based platform, yielding an impressive acquisition rate of 73.85%, with 13.07% attributed to LLM and 60.78% emanating from lecturers' tacit knowledge. This study effectively showcases the potential of synergizing cutting-edge language models with human expertise, augmenting knowledge acquisition in educational environments. Furthermore, the proposed system furnishes a comprehensive and easily accessible resource, presenting insights into frequently encountered challenges and corresponding resolutions, benefiting students and lecturers.

Keywords: knowledge acquisition, student lecture reflections, text extraction, BERT, large language model