

Automated Research Topic Generation to Maintain Topic Quality Approvals in Tertiary Education

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Abstract

Tertiary academic students in most degree fields are expected to complete an 'Introduction to Research' module. Researchers would agree that an article or proposal is an expansion of a well-constructed research topic. However, lecturers are limited by time constraints in providing bespoke guidance to students in the critical aspect of topic construction. Lecturers are required to approve large numbers of research topics from tertiary students. Using an action research approach to facilitate the responsibilities of both, maintaining quality of topic approvals and ensuring the understanding of the aspects of a research topic which need to be considered by students, a Socratic inspired system was formulated. Automation ensures quality and consistency of outputs and enables ease of tracking and deviation identification. The system developed and piloted, utilizing student responses gathered from a Microsoft form, an integrated Power Automate flow and SharePoint list generates a series of suggested topics which are emailed to each student. The system allows for quality control of research topic approvals, and tracks changes made during the research process. 28 responses were gathered from third year treatment group of business students. The automated flow constructs topics based on formulaic combinations of responses and typical topic guidelines. The responses then captured in the SharePoint List facilitated the lecturer's ability to track the topics and areas of focus of 28 students. The control group of 43 students scored on average 11% lower on the research proposal submissions. Adjustments to the process include an approval and suggested improvements 'detour function' to the lecturer before topic suggestions were distributed to students.

Keywords: Research Construction, Automation in Education, Co-creativity, Socratic Method