

INVOLVEMENT OF SRI LANKAN SECONDARY SCHOOL TEACHERS WITH ARTIFICIAL INTELLIGENCE: A CLUSTER-BASED APPROACH

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This study examined the engagement of Sri Lankan secondary school teachers with Artificial Intelligence (AI) in education and aimed to assess how their educational and professional qualifications, along with demographic factors, relate to this engagement. Data were collected from 86 teachers (Grades 6 – 11) nationwide using a questionnaire. Out of 20 AI-related variables in the dataset, 13 were pre-grouped into three thematic groups based on: usage and experience, knowledge and awareness, and attitudes and perceptions. *K*-means cluster analysis ($k = 3$) was separately conducted for each group to identify distinct teacher profiles based on the above AI-related variables. Cluster assignments were analysed with seven additional variables, including educational and professional qualifications (highest educational qualification, highest professional qualification, entry qualification, and years of teaching experience) and demographic factors (gender, province, and district). Fisher's exact test was used to test the statistical association of these seven variables with every thematic group. The analysis showed no significant association among any of the three groups and the demographic variables used. No significant association was observed between the two groups: usage and experience, and knowledge and awareness, and any of the educational and professional qualification variables ($p > 0.05$). However, there was an association between the attitudes and perceptions group and the highest professional qualification variable ($p = 0.0136$), which indicated that professional development could be a key element in influencing teachers' perceptions of AI in teaching. The remaining three qualification variables have no significant association with the attitudes and perceptions group. These findings emphasise the importance of implementing targeted professional development programmes that highlight the pedagogical applications of AI. Additionally, since demographic factors showed no significant influence ($p > 0.05$), awareness and training initiatives should be designed to be inclusive and uniformly accessible across regions and genders. These findings offer valuable guidance for developing targeted training programs to enhance teachers' readiness for AI integration in Sri Lankan education.

Keywords: AI awareness, AI in education, K-Means clustering, Professional development, Teacher perceptions