



The Use of Artificial Intelligence in Universities

Franklin Thambi Jose. S¹; Muniisvaran Kumar²; J Preethi³

^{1,2}Sultan Idris Education University, Malaysia

³Jayaraj Annapackiam College for Women, India

Corresponding Author Email: thambijoshs@gmail.com

Abstract—The world has shrunk due to the advancement of technology. Technology is an application of scientific information for real life practical purposes. It is a branch of knowledge dealing with applied sciences. At present, artificial intelligence play a vital role in the all fields including education. Artificial Intelligence (AI) refers to the simulation of human intelligence in machines that are programmed to think, learn, and solve problems. The present study is based on the objective to identify the usage of artificial intelligence tools among the university Tamil learning university students. Quantitative research method is used in this study. 500 university Tamil students of Keralam are selected. Questionnaire is the tool. Data are collected using the framed questionnaire. The findings say that the most of the respondents are familiar with artificial intelligence, the impact of artificial intelligence in academic activities are high and artificial intelligence simplifies difficult concepts. The study recommends to utilise the artificial intelligence in all the higher education institutions.

Keywords: artificial intelligence, university learning, Tamil language and Keralam

I. INTRODUCTION

The world has shrunk due to the advancement of technology. Technology is an application of scientific information for real life practical purposes. It is a branch of knowledge dealing with applied sciences. Moreover, it is the branch of knowledge which deals with the creation or invention and the use of techniques and approaches. Televisions, computer, machines, smart phones, etc. are some of the technology-based gadgets in the existing world. At present, artificial intelligence is at its peak. Artificial Intelligence (AI) refers to the simulation of human intelligence in machines that are programmed to think, learn, and solve problems. The origins of artificial intelligence (AI) trace back to the 1950s, marked notably by the release of Alan Turing's influential paper 'Computing Machinery and Intelligence,' and the term itself was coined by John McCarthy during a 1956 summer workshop at Dartmouth College (Gefen et al., 2021). Artificial intelligence is a field of study and the resulting innovations and developments that have culminated in computers, machines, and other artifacts having human-like intelligence characterized by cognitive abilities, learning, adaptability, and decision-making capabilities (Chen. L, P. Chen and Z. Lin., 2020). Artificial intelligence intruded into all the fields including teaching and learning. It brings personalized, efficient, and adaptive experiences to the classroom, both physical and virtual. Personalised learning, intelligent tutoring systems, teachers' intervention, chatbots & virtual assistants and content generation are some of the major uses of artificial intelligence. Moreover, the AI tools help the teachers to plan lessons, grades, and communicate more efficiently. The main uses of AI in education are related to tutoring and assessment (González-Calatayud. V, Prendes-Espinosa. Paz and Roig-Vila. Rosabel, 2021).

The most relevant applications of AI are in the field of education. The present education is restricted not only to face-to-face education and smart learning environments, but also principally, in e-learning, making real the automatic and personalized learning processes based on adaptive learning, machine learning, ontologies, semantic technologies, natural language processing or deep learning. The origin of automatic learning processes goes back to, and is based on B.F. Skinner's teaching machine and programed learning (González-Calatayud. V, Prendes-Espinosa. Paz and Roig-Vila. Rosabel, 2021).

Keralam is one of the most educated states in India. It is situated in the western ghats of India. Keralam has a large number of educational institutions including universities, colleges, and schools. There are 14 universities in the state, with 16 state universities, one central university, and two deemed universities. The state also has a significant number of colleges, with reported numbers ranging from 1,332 to 1,448 (State Planning Board, 2016). Of these educational institutions several students are learning with Tamil language background. Many colleges in Keralam are offering Tamil courses with linguistics including the University of Kerala and the Central University of Kerala. The present study is based on the artificial intelligence and its use among the university Tamil students of Keralam.

II. PROBLEM STATEMENT

Due to the advancement of technology including artificial intelligence, tremendous changes took place in all fields including education. Most of the fields started to focus much on digital. For instance, government projects, educational institutions, shopping malls, cine theatres, banks, etc. are focusing digital artificial intelligence. Banks started to practice digital transactions, railways started to utilize applications to book tickets. Such activities created challenges among the public especially among teachers and students. The development of education systems moved towards computer and information technology. The process of teaching and learning in education opened the eyes of teachers and students by the introduction of hybrid and digitalization due to the advancement of technology. Several institutions came forward to use artificial intelligence in their teaching and learning after its popularity throughout the world. Even the educational institutions in India including Kerala state are not an exception and they started using artificial intelligence in their teaching and learning. A study says that the current state of AI training and the use of AI tools should enhance the learning experience because intelligence requires the capacity to perceive contexts, associate contexts to actions, and act (Hasan Sapci. A and Sapci Aylin, H; 2020). There are various AI tools used in education for academic and non-academic purposes. Moreover, another study (Merin Joseph, A and Om Prakash, LT, 2023) says that the need for an integrative approach where AI complements rather than replaces human creativity and intellectual freedom which is an issue. Also, a lack in building a resilient educational system that supports country's growth towards a digitally inclusive society is realized (Lopez, San. et.al, 2024). Another study says about the impact of hardware operation skills and personal information and communication technology usage on the effective utilization of ICT in the teaching and learning process. This ICT includes the utilisation of artificial intelligence. There are various problems in implementing AI in the present education system. Hence, to fill the gap of the utilising and implementing AI in universities, this study is conducted.

III. RESEARCH OBJECTIVES

The main objective of the study is to identify the usage of artificial intelligence tools among the university Tamil learning students.

IV. LITERATURE REVIEW

A literature review is a comprehensive survey and synthesis of scholarly sources on a specific topic. On the proposed topic, no studies have been done. But there are many researches completed in the related fields such as teaching and learning with technology, artificial intelligence, teaching learning in the digital era and many more. Some of them are referred here.

Merin Joseph, A and Om Prakash, LT (2023) have conducted a study on the implications of artificial intelligence in education. The study analysed the transformative reality of the present, analysing the sociological implications of AI integration in education and its impact on skills, knowledge dissemination, and the changing roles of educators and learners. Moreover, it attempted to throw light on the dynamics of humans and AI in the educational context, looking into prospective changes in teaching and learning process. It also explored the context of AI in relation to the field of social sciences. The benefits and limitations of technological integration education were discussed, providing a broad reflection on social implications with sociological theoretical underpinnings.

Yet another study was conducted by Manoj, P.K., and et. al. (2023) on teaching of EFL with the digital tools within Kerala universities. The study explored as to how teaching of EFL (English as a Foreign Language) could be made more effective using TEEM digital tool on languages and performing arts. Considering the typical educational scenario of the State of Kerala in India, the study demonstrated the relevance of the LTTA approach for developing effective learning models like TEEM that can make education more lively, scientific and practice oriented. Moreover, the practical significance of the language courses and the employability of the graduates can be improved with the digital tools. Also, the way of effectively utilizing the local resources along with the specialized skills and knowledge of the graduates, regional economic development is possible. The study identified that university post-graduate courses should be restructured using an LTTA approach for better employability of the graduates. Further, inclusion of ICT and allied advances like artificial intelligence makes this process more meaningful in this ICT era. The study concluded that for higher level courses in universities of Kerala should include latest approaches including artificial intelligence.

Another study conducted by Bose, L.S. and Humphreys, S. (2022) based on virtual technologies implemented in the higher education of Kerala. The higher education faculties from Kerala were selected as informants for this study. The virtual technologies are employed to the faculties using information and communications technology including artificial intelligence. 51 factors are identified including innovative, interactive, involvement, informative, and influential to help ascertain the effectiveness of such technology training during their teaching. The researchers used the ICT-virtual labs in science as the technology to evaluate these five factors. The experimental group practiced in a virtual lab in the first stage, but the control group did not. Test I was then performed on both groups. In the second stage, both groups practiced with real lab equipment, and test II was conducted on both groups. The tests and other data from the two groups were statistically analyzed using independent *t* tests. There were notable differences between the experimental and control groups: in terms of time for understanding the concepts behind the experiment, time for doing the experiment, and accuracy in results, with the experimental group performing significantly better. On the other hand, there was no significant difference between the two groups in task completion accuracy. Overall, there was a beneficial transfer of training from the virtual lab exercise to the real lab, with the experimental group's average score being higher. The study recommended to utilize technology-based teaching and learning.

All these studies provided ideas to the present researcher to conduct study, collect data, analyse and implement.

V. RESEARCH METHODOLOGY

The proposed study is carried out with the quantitative research method. Data are collected through the questionnaire framed. This tool is used to collect data from the university students to identify the use of artificial intelligence in their Tamil language learning. The questionnaire contains a set of questions which is based on artificial intelligence. 500 university Tamil students from Kerala are included in this study. Students are from various universities of Thiruvananthapuram District of Kerala and all these students are included as informants in the study. Questionnaire is used as instrument for this study. A set of elements in a well-structured questionnaire is framed for the students. The questionnaire is used to know the usage of artificial intelligence among university Tamil students of Kerala.

Machine Learning Theory is a subfield of artificial intelligence that focuses on developing algorithms that allow computers to learn from and make decisions or predictions based on data—without being explicitly programmed for every specific task. It was created by Tom M. Mitchell in 1997. It is constructed with supervised learning, unsupervised learning and reinforcement learning. Supervised learning learns with labelled data from mail source, exam score, etc. Unsupervised learning includes learning with models and reinforcement learning is based on learning through trial and error based on the feedbacks (Kelly, Allison, 2020). The last element reinforcement learning will be implemented in this study.

VI. RESULTS & FINDINGS

The result is based on the main objective to identify the usage of artificial intelligence tools among the university Tamil learning students. The data are collected through a structured questionnaire assessed by Language Experts. There are 30 elements in the

questionnaire and there are divided into 4 main components such as artificial intelligence literacy, impact of artificial intelligence in academic activities, knowledge gained with artificial intelligence and university education environments.

In the component on artificial intelligence literacy, students reveal high familiarity on artificial intelligence with a mean of 4.06 and strongly agree to believe it is vital for their future with a mean 4.29. Moreover, they responded that, they lean seriously on artificial intelligence for productivity and saving time with a mean of 4.13.

While coming to impact of artificial intelligence in academic activities, the analysis reflects on a clear net-positive perception regarding output. Respondents agree that artificial intelligence increases productivity and has the mean of 4.01. Further, related to improvement of assignment quality the respondents responded with the mean 3.74 and 3.52 mean for academic stress.

The other component is about knowledge gained with artificial intelligence. The respondents strong agree that over-reliance impends critical thinking with a mean of 4.02 and raises plagiarism risks with the mean of 3.99.

University education environment is another component and it consists of 5 elements. This is the most critical part of inconsistency. The respondents strongly demand dignified institutional guidelines with a mean 4.26 and compulsory ethical training with the mean 4.26. Finally, the respondents clearly state that their universities have failed to provide adequate awareness and clear guidelines with the mean 2.40 and 2.20 respectively.

VII. CONCLUSION

The study is based on the objective related to the usage of artificial intelligence among university study. The study reveals based on the analysis, that several important leanings emerge regarding university students' perceptions and implementation of artificial intelligence in their academic environments. The majority of respondents are heavily familiar with artificial intelligence. 85% of the respondents strongly agree on elements based on the component artificial intelligence literacy. The study also reveals that, 82% responded about the impact of artificial intelligence in academic activities. Further, the study reveals that 90% of respondents state artificial intelligence simplifies difficult concepts and elevates assignment quality. Keeping all these findings in mind one can conclude that artificial intelligence is essential in universities and the study recommends to utilise the artificial intelligence in all the higher education institutions.

VIII. ACKNOWLEDGEMENT

This research is carried out under the, international grant entitled, 'The Emergence of Artificial Intelligence and it's use among University Students' funded by AJMST Global Pvt. Ltd, India. The researcher and co-researchers would like to extend their gratitude to the Research Management and Innovation Centre (RMIC) of Universiti Pendidikan Sultan Idris, Malaysia and AJMST Global Pvt. Ltd, India for approving to conduct this study and for providing fund to conduct and to complete this research work. The research code is 2025-0112-106-11.

REFERENCES

1. Anusia, K. & Kumar, Muniisvaran. (2024). Tamil Language Teachers' Teaching Practices for Factual Type Essays in Tamil National Type Schools in Malaysia. *International Journal of Academic Research in Progressive Education and Development*. 13. 1-16. 10.6007/IJARPED/v13-i1/20028.
2. Bose, L.S., Humphreys, S. (2022). The 5I's of Virtual Technologies in Laboratory Teaching for Faculties of Higher Education in Kerala. *J Sci Educ Technol* 31, 795–809. <https://doi.org/10.1007/s10956-022-09995-8>
3. Chen. L, P. Chen and Z. Lin. (2020). "Artificial Intelligence in Education: A Review," in *IEEE Access*, vol. 8, pp. 75264-75278. doi: 10.1109/ACCESS.2020.2988510.
4. Gefen, A and et. al. (2021). AI for Digital Humanities and Computational Social Sciences. In B. Braunschweig & M. Ghallab (Eds.), *Reflections on Artificial Intelligence for Humanity*, Vol. 12600, pp. 191. https://doi.org/10.1007/978-3-030-69128-8_12



5. González-Calatayud. V, Prendes-Espinosa. Paz and Roig-Vila. Rosabel, (2021). Artificial Intelligence for Student Assessment: A Systematic Review, *Applied Sciences*, 11(12), 5467; <https://doi.org/10.3390/app11125467>
6. Hasan Sapci. A and Sapci Aylin, H. (2020). Artificial Intelligence Education and Tools for Medical and Health Informatics Students: Systematic Review, *JMIR Medical Education*, 6(1): doi: 10.2196/19285
7. Jose FT, Preethi P, Ponnai K, and Kumar M (2025). Designing and implementing a Tamil language learning tool for educational institutions. *International Journal of Advanced and Applied Sciences*, 12(12): 122-128
8. Kerala State. (2016) State Planning Board, Government of Kerala, India.
9. Kelly, Allison. (2020). PAC Learning Theory for the Everyman. An uncomplicated introduction to the theory behind supervised machine learning. <https://medium.com/swlh/pac-learning-theory-for-the-everyman-93c917c126f5>.
10. Kumar M, Selistus FTJ, and Ponniah K (2023). A study on utilizing SPALT technology in the classroom. *International Journal of Advanced and Applied Sciences*, 10(3): 130-135
11. Lopez, San. et.al (2024). Artificial Intelligence Challenges and Role for Sustainable Education in India: Problems and Prospects, *Library Progress International*, 44(3), pp 18261-18271. <http://dx.doi.org/10.2139/ssrn.5031316>
12. Manoj, P.K., and et. al. (2023). Learning Through the Arts (LTTA) Approach to the Teaching of Performing Arts and Languages in the Digital Era: A Teem Framework with Special Reference to Kerala. *ShodhKosh: Journal of Visual and Performing Arts*, 4(2), 15–26. doi: 10.29121/shodhkosh.v4.i2.2023.345
13. Merin Joseph, A and Om Prakash, LT. (2023). Artificial Intelligence and Future of Classrooms: A Narrative Review on Technological Integration in Education KERALA SOCIOLOGIST JOURNAL OF THE KERALA SOCIOLOGICAL SOCIETY, Vol 51, No 1, pp 40-59. <https://kss.org.in/wp-content/uploads/2024/12/June-Issue.pdf#page=39>.
14. Ponniah K, Kumar M, and Moneyam S et al. (2019). The teaching of Thirukkural based on HOTS among the students of Tamil primary schools in the state of Perak. *International Journal of Advanced and Applied Sciences*, 6(2): 94-101