

Impact of Digital Literacy, Use of AI tools and Peer Collaboration on AI Assisted Learning: Perceptions of the University students

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ABSTRACT

The technology-supported education systems seamlessly integrated throughout the globe in response to the demands of post Covid-19 pandemic. The swift developments of the digital tools with Artificial Intelligence (AI) support are also readily diffused among the educational communities. This research paper investigates the synergistic impact of digital literacy, the incorporation of AI tools, and Peer Supported Collaborative Learning (PSCL) on the learning perceptions of university students. The research aims to discern the implications of these technological and social facets on students' attitudes towards AI assisted learning process. Structured questionnaire-based survey among the University students were done for this descriptive research. 409 responses collected were analysed with SPSS, Excel and Process Macro. It is found that the students' Digital Literacy, Use of AI tools and PSCL on AI assisted learning were positively correlated. The partial mediatory path through the PSCL and AI tool usage has a significant positive influence on students learning process. The insights gathered from this study can inform educators, policymakers, and institutions on optimizing the amalgamation of digital literacy, AI tools and PSCL to enhance the contemporary learning environment. As universities navigate the digital age, this research provides a nuanced understanding of the dynamics shaping students' perceptions, offering valuable insights into the multifaceted aspects of AI influencing the educational landscape

KEYWORDS: AI tools, digital literacy, Peer Assisted Collaborative learning, Computer-Assisted Learning, AI assisted Learning, Personalistic learning

1 INTRODUCTION

The post-COVID era has witnessed a swift and widespread adoption of technology across various dimensions. Surprisingly, this rapid integration has not only been embraced by the industrial community but also by the educational sector, traditionally depicted as immune to the fast integration of technology (Agarwal et al., 2022; Guppy et al., 2022). The digital landscape of the current era provided a transformative substratum for education, demarked by the seamless integration of digital technology tools into traditional learning environments (Guppy et al., 2022; Joseph and Thomas, 2021). This paradigm shift revolutionizes the way students interact with educational ecosystems and fundamentally shapes their perceptions of personalized learning in the digital age. The heart of this transformation lies their capacity to seamlessly blend traditional education systems with evolving personal learning environments supported by the AI powered digital educational tools (Zancajo et al., 2022).

Traditional education systems have the prime objective of providing literacy skills to the students. The literacy skills denoted their proficiency in reading and writing and considered it as the fundamental skills for academic achievement (Agarwal et al., 2022; Guppy et al., 2022). However, the digital era has catalysed a

redefinition of literacy, expanding its scope through the concept of digital literacy. This expanded concept acknowledges the dynamic nature of information dissemination in the digital realm ((Joseph and Thomas, 2021). Digital literacy encompasses more than just the foundational ability to read and write in the realm of digital information. It extends to higher-order thinking skills, encompassing the capacity for critical evaluation, analytical problem-solving, creative imagination, and the ability to make meaningful interconnections, all while effectively communicating information using digital technologies (Aggarwal, 2023). Students equipped with digital literacy skills become active contributors to the digital information ecosystem (Kimbrough et al., 2022). Digital literacy acts as the bedrock upon which the structure of AI-assisted learning is constructed. Educational institutions, embracing the potential of AI technologies, position digital literacy as a cornerstone that empowers students to navigate and harness the capabilities of AI in their learning journeys (Agarwal et al., 2022; Zancajo et al., 2022).

The advent of AI technologies in education signals an amalgamation of traditional teaching-learning models with personalized and adaptive learning experiences. The traditional education systems were teacher centric with a uniform approach of knowledge dissemination in the class room environments (Guppy

et al., 2022; Joseph and Thomas, 2022). The unique needs and learning styles of individual students were taken care by the AI technologies by providing a wide array of intelligent tutoring systems to adaptive learning platforms (Aggarwal, 2023). This demarks a shift from a uniform approach to tailored education. It redefines the educational landscape, creating an environment where students progress at their own pace and receive personalized feedback, fostering a more effective and engaging learning experience, without undermining the benefits of the traditional social learning systems (Grindal et al., 2023).

The physical brick and mortar space of traditional education systems has traditionally served as a robust environment for facilitating social learning and peer-influenced learning. These social dimensions are also crucial for fostering technology-based learning engagement as social engagement enhances the effects of digital literacy and the utilization of AI tools (Kimbrough et al., 2022). Social interactions introduce a collaborative dimension to learning, allowing students to share insights, participate in discussions, and collectively construct productive solutions for the humanity (Grindal et al., 2023; Joseph and Thomas, 2021).

As the current education systems strives to keep pace with modern technological advancements, a nuanced understanding of the relationships among digital literacy, AI tool usage, and social engagement becomes imperative (Joseph et al., 2023; Vargas-Murillo et al., 2023; Wang et al., 2023). This study tries to addresses the objective of understanding the impact of these variables on the AI assisted learning process of the university students, who are more exposed with the technology supported learning process. It aims to provide valid insights for the educators, policymakers, and technology developers, guiding them in creating inclusive, engaging, and responsive learning environments. The evolution of education in the digital age is not a linear progression but a dynamic, interconnected web where each element plays a crucial role in shaping the learning experiences and perceptions of students.

1.1 digital literacy

Digital literacy refers to an individual's capacity to proficiently utilize information and communication technology for effective access, evaluation, and processing of information presented in diverse digital formats (Joseph and Thomas, 2020a; Manubey et al., 2022; Su, 2023). The primary phase of the Digital literacy enriches learning through tools like e-books, videos, and online platforms, fostering active student engagement. Proficient digital literacy enhances participation in online discussions and collaborative forums, strengthening understanding through idea exchange. It also cultivates critical skills, enabling students to assess information critically, discern credible sources, and verify information accuracy (Joseph and Thomas, 2022; Deja et al., 2021; Wang et al., 2023). Tech-savvy students are experts of Digital Literacy who are well-equipped to navigate technological shifts in the workforce, seamlessly integrating technological advancements into their academic pursuits, and creates solutions to address the critical issues they face (Ervianti et al., 2023). Higher levels of digital literacy extend beyond mastering technology. It involves skilfully managing information with wisdom and critical thinking, fostering collaborative and communication skills in a digital learning or work setting, leading to exceptional higher order learning outcomes (Lingga et al., 2022; Su, 2023).

The researches on digital literacy identify seven vital elements in digital literacy (Jisc, 2019; Joseph et al., 2023; Su, 2023; Yazon et

al., 2019). First element is the information management manifested through identifying, evaluating, and utilizing necessary information available over the digital systems. Secondly the Digital scholarship, which necessitates active engagement in educational tasks, extracting new facts from digital media through research or assignments. The third element is the technology Learning Skills, that support the formal and informal learning. The ICT Literacy requires practical knowledge, covering the adoption, adaptation, and use of digital devices and media. The fifth element is the Career and identity management utilize technology for online identity, employing avatars for communication. Communication and cooperation element involve active engagement in activities through digital networks. Finally, the Media literacy entails critical reading skills and innovative communication across diverse media, ensuring users are not misled by information. Digital literacy skills encompass cognitive, technical, and socio-emotional capabilities, essential for operating technology systems and programs. Consequently, individuals' digital proficiency levels significantly contribute to the continuous integration of technology in educational contexts (Jisc, 2019; Öncül, 2021; Pangrazio, 2020; Saputra and Al Siddiq, 2020; Su, 2023; Yazon et al., 2019).

1.2 Peer Supported Collaborative Learning

Collaborative learning (CL) enables students to combine their knowledge, skills, and experiences for mutual understanding and learning. Key aspects of CL include grouping students and acquiring knowledge through social interactions with peers (Ramadevi et al., 2023). Collaborative learning is accepted in traditional learning systems where the members collectively work to solve problems, leveraging each other's knowledge and expertise (Joseph and Thomas, 2020b; Kimbrough et al., 2022; Ravinder Kumar, 2017). Traditionally, individuals' learning together in a team may be unrelated to each other as in the formal classroom discussions or exam related peer study sessions. Grounded in the constructivism frame of thought, the 'meaningful learning occurs when individuals actively seek to comprehend the world,' involving the construction of interpretations by filtering new ideas and experiences through existing knowledge structures (Kim, 2001). The constructivism directs how to plan, structure, and instruct students in peer teaching and learning projects while providing an emotionally supportive environment for CL (Hayden, 2021).

Research highlights that effective Collaborative Learning (CL) materializes only when team members consistently activate and sustain their cognitive processes, motivation, behaviour, and emotions in pursuit of their shared goals (Qureshi 2023; Millis, 2023). The role of CL is significantly high at the university levels where the collaborative discussions, experiments and model developments are emphasised more during the academic pursuit. In the digital learning systems, the Collaborative learning became the most valuable method for active learning, enhancing critical thinking (Joseph and Thomas, 2020a; Qureshi 2023; Ramadevi et al., 2023; Schunk and Greene, 2017). Instructors use it to facilitate learning, requiring active student participation and interaction for content development. A collaboratively rich environment is recommended for improved cognitive performance, social relationships, and metacognition (Ramadevi et al., 2023; Ravinder Kumar, 2017). In this interactive CL settings, students function as resources for each other, engaging in discussions, observing others' work, sharing ideas, and making collective decisions (Ansari and Khan, 2020).

Peer-supported collaborative learning (PSCL) represents a powerful educational paradigm where students harness the

collective power of collaboration to enhance their learning experiences (McGarr, 2019). Rooted in the belief that collaborative exchange stimulates cognitive processes, PSCL emphasizes pooling diverse knowledge and skills within student groups. These groups can serve as basic units of collaborative learning, sharpening interpersonal skills and teamwork (McGarr, 2019; Millis, 2023). These social interactions and joint problem-solving activities of the peer teams contribute to knowledge construction, fostering critical thinking. PSCL incorporates peer mentorship, nurturing a sense of shared responsibility for academic success. In the digital age, technology facilitates seamless peer interaction, transcending physical boundaries (Ramadevi et al., 2023). Assessing CL involves evaluating both individual understanding and the collaborative process. It is evident that effective Collaborative Learning (CL) is achieved only through the active support of the peer members with their cognitive, motivational, behavioural, and emotional processes to achieve goals (Ramadevi et al., 2023; Schunk & Greene, 2017).

The challenge of collaborative learning lies in the fact that core learning processes, such as cognition, metacognition, emotions, and motivation, are inherently invisible but crucial for collaborative success. The strategic regulation of these invisible processes emerges as a pivotal factor in achieving successful collaborative learning outcomes (Joseph and Thomas, 2020b; Järvelä et al., 2018). While challenges may arise, clear guidelines, a supportive learning culture, and conflict resolution strategies ensure successful implementation. PSCL not only enhances academic outcomes but also cultivates a collaborative spirit essential for navigating the complexities of the interconnected world (Ansari, 2020; McGarr, 2019; Ramadevi et al., 2023).

1.3 Use of AI tools and AI assisted learning process

Humanity is transcending from information-based society to intelligent society powered by the AI. In recent years, the swift progress of computing and information technology has solidified artificial intelligence (AI) as the forefront of human exploration into machine intelligence (Tzirides et al., 2024; Zhu et al., 2023). Discussions surrounding AI originated with the introduction of the term 'Artificial Intelligence' by John McCarthy in 1955 and the subsequent developments of computational technology through the five decades could provide a solid computer-assisted systems for learning process (Cope et al., 2021). The introduction of Computer-Assisted Learning (CAL) was a tremendous revolution for the education systems, employing technology to customize learning experiences (Chen et al., 2021; Cope et al., 2021). The progression of educational technologies, digital devices and the applications of Machine learning has transformed computer-assisted learning into a dynamic interdisciplinary field, expanding its research potential and diversifying its topics (Chen et al., 2021; Zhai et al., 2021). CAL was not a mere an education tool, but it served as a catalyst for cultivating a digitally literate, adaptable, and engaged generation, actively shaping the future of education. The diffusion of AI tools with deep learning to the CAL could customize learning content to individual student needs, fostering enhanced engagement and understanding through the incorporation of multimedia and interactive exercises that cater to diverse learning styles. During the Covid-19 pandemic CAL transcends geographical constraints through online platforms, promoting learning accessibility to all on global basis (Chen et al., 2021)

The mushrooming of Artificial Intelligence (AI) tools after the Covid-19 pandemic literally engulfed the CAL systems and redefined the learning process with its deep learning tools as ChatGPT, Bard,

Duolingo, EdX, audio-video-text generating and editing tools, etc. (Adiguzel et al., 2023; Vargas-Murillo et al., 2023). Artificial intelligence is commonly characterized by its deep learning methodologies with advancements of computational techniques and their outcomes have the potential to closely mimic human-like capabilities (Chen et al., 2021; Cope, 2021). AI incorporates the advancements in machine learning, neural networks for deep learning, and quantum computing (Cope, 2021; Zhu et al., 2023). AI-assisted learning harnesses artificial intelligence to revolutionize education sector (Zhang and Zhang, 2024). The AI systems demark a paradigm shift in education by creating dynamic and responsive personal learning environments that cater to diverse needs of the students and it is incorporating various features of the natural language processing with Generative AI, Generative Pre-trained Transformers, personalized instruction tools with self-training capacities, adaptive feedback with real-time assessment of big data, and the ability to behave as humanoid with neurolinguistic capabilities (Vargas-Murillo et al., 2023; Zhai et al., 2021; Zhu et al., 2023).

The drastic attraction of the learning community for AI tools is due to its enormous potential for the personalized adaptable nature that can provide a cohesive human-AI learning community impression (Zhang and Zhang, 2024; Kabudi et al., 2021; Wang et al., 2023). Intelligent Tutoring Systems (ITS) exemplify the symbiosis between AI and education, dynamically adapting instructional strategies and providing real-time feedback (Lai, 2021; Zhai et al., 2021). AI's data-driven insights empower education process with comprehensive information on student performance and preferences. Moreover, AI fosters enhanced engagement through Natural Language Processing and chatbots, facilitating interactive learning experiences (Adiguzel et al., 2023; Kabudi et al., 2021; Ramadevi et al., 2023; Tzirides et al., 2024).

The automation of routine tasks optimizes educational efficiency, allowing educators to focus on more individualized student centric teaching with human tincture. The students prioritize personalized guidance from the teachers than a tailor-made solution for the whole class and flexible AI tools make it possible for the educators to deliver the personalized learning interventions for the students across divers academic fields (Joseph and Thomas, 2021; Ogata et al., 2024; Onesi-Ozigagun et al., 2024; Rane, Choudhary and Rane, 2023; Ruiz-Rojas et al., 2023). They expect that robots play vital roles in AI-assisted learning, indicating a cohesive human-AI learning community environment for individualized learning to promote the higher-order thinking activities (Kabudi et al., 2021; Lai, 2021; Rane et al., 2023; Vargas-Murillo et al., 2023; Wang et al., 2023; Zhai et al., 2021). This study concentrates on the use of AI tools available to the students and how these compliments or disrupt the traditional education models. The initial studies brought a mixture of responses about the AI assisted learning perceptions, this study address the research question, how the students' Digital Literacy, their use of AI tools and Peer Supported Collaborative Learning impact their AI assisted learning process. with respect to the Perceptions of the University students.

2 METHODOLOGY

This descriptive research study investigates the research problem stated above with objectives to study the impact and relations of Digital Literacy, use of AI tools and Peer Supported Collaborative Learning with respect to the AI assisted learning process of the University students. Based on the review of literature and the field

study the research study design is formulated as shown in figure-1. The relationships among the variables are denoted as a, b, c, d, e, and f in the research design.

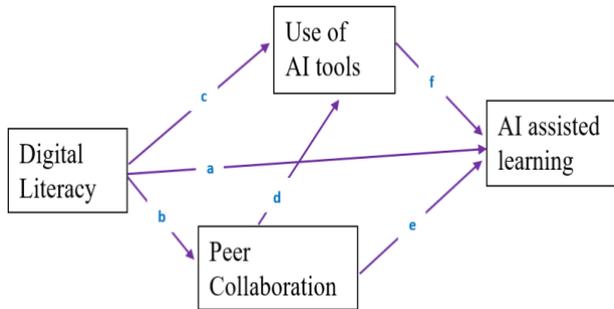


Figure 1. Research design

The research hypotheses were formulated to study the relationship as: H0-1: There is no significant relation exist between the Digital Literacy, use of AI tools, Peer Supported Collaborative Learning and the AI assisted learning process of the university students. H0-2: There is no significant relation exist among the respondents with respect to the demographic factors and study variables. H0-3: There is no significant mediation effect exerted by the Use of AI tools and Peer Supported Collaborative Learning on the relation between students digital Literacy and their use of AI assisted learning. The data collected with five-point Likert scale items adapted from the earlier studies. The content and face validity of the measurement tools were affirmed with the experts and field reviews. The items' reliability was affirmed through the pilot study analysis and the items that scored lower for the Cronbach's Alpha were eliminated. The final measurement tool consisted of items with Cronbach's Alpha for all the individual items of the measures as above 0.65 and the items to measure the variables were in the acceptance level. The 409 responses from the University students were collected with structured questionnaire, in non-random method, and analysed with excel spreadsheets, SPSS and process Macro. The sample consisted of university students of different discipline from the State of Kerala and Karnataka, India. Informed consent of the respondents was received before the data collection and the process was fully on voluntary basis. Personal data were not collected and institution wise analysis was not done at any stages. The data was coded and secured as per the norms of ethical research.

3 ANALYSIS AND INTERPRETATION

The respondents consisted of 53.9% females, 39.6% are PG students and others are undergraduate students with specializations in Management, Arts and Science, BTech, Commerce and other subjects. The respondents are from Kannur, Kasaragod, Wayand, Kozhikode and South Karnataka districts, India. The Skewness of the data (between -0.348 to 0.759) and Kurtosis (between -0.489 to 0.708) falls under the normal distribution acceptance limit (Hair et al., 2014). And parametric tests are applied for analysis. The detailed descriptive statistics of the measures are given in the Table-1. The variables (measures) under the study scored above average mean value in the five-point Likert scale rating. The Digital Literacy levels of the university students under study are exhibiting rather a high self-rated value. As all the respondents are using the AI tools for the academic purpose, the standard deviations were rather minimum. So it is

inferred that the University students are using the AI based learning systems effectively after the Covid-19 pandemic. The hypothesis formulated from the objectives are tested with the data collected with SPSS v22.

Measure	Mean point) (5	SD	Skewness	Kurtosis	Cronbach's Alpha
AI assisted Learning	3.52	0.63	0.150	-0.299	0.748
Digital Literacy	3.72	0.88	-0.348	-0.489	0.835
AI tool use	3.39	0.95	-0.290	-0.235	0.847
PSCL	3.41	1.05	0.759	0.708	0.845

Table 1.Descriptive statistics of the measures

H0-1: There is no significant relation exist between the Digital Literacy, use of AI tools, Peer Supported Collaborative Learning and the AI assisted learning process of the university students.

The first hypothesis is tested with Pearson Correlation analysis with two tailed, at 0.01% significance level using SPSS v22. The analysis shows that there is significant correlation exists between all the measures under study. The Pearson Correlation analysis between the measures is given in Table-2.

Measure	Digital Literacy	Use of AI tools	PSCL
AI assisted Learning	0.507**	0.498**	0.361**
Digital Literacy	1	0.628**	0.421**
Use of AI tools		1	0.571**

Table -2: Pearson Correlation analysis between the measures

** Pearson Correlation is significant at the 0.01 level (2-tailed).

The hypothesis, H0-1 is tested with Pearson Correlation analysis and it is found that all the relationships denoted as a, b, c, d, e and f are positively correlated to the 0.01 level of significance with $p=0.000$ ($p<0.05$) probability. The table value indicates rather a strong positive of correlation (detailed in the Table-2) between the Digital literacy and Use of AI tools - denoted in the research design as "c" ($r=0.628$) and moderately strong relation between Use of AI tools and Peer-Supported Collaborative Learning (PSCL) denoted as "d" $r=0.571$, $p<0.05$. Thus, the null hypothesis (H0-1) is rejected and it is affirmed that there is significant relation exist between the Digital Literacy, use of AI tools, Peer Supported Collaborative Learning and the AI assisted learning process of the university students.

The second null hypothesis is tested with assumption that, (H0-2) there is no significant relation exist among the respondents with respect to the demographic factors and study variables. The one sample ANOVA and independent sample t-test are used for testing the hypothesis and it is found that the gender, course of study, specialization and place have no significant ($p>0.05$) impact on their Digital Literacy, use of AI tools, Peer Supported Collaborative Learning and the AI assisted learning process. So null is not rejected.

The third null hypothesis (H0-3: There is no significant mediation effect exerted by the Use of AI tools and Peer Supported Collaborative Learning on the relation between students digital Literacy and their use of AI assisted learning) is tested with mediation analysis model 4 using the Process Macro v4.2 by Andrew F. Hayes.

The mediation analysis is found to be significant ($p < 0.05$) with positive relationship. The model summary is given in Table-3.

Outcome	R	R Squire	MSE	F	df1	df2	p
AI assisted Learning	0.5615	0.3153	0.5792	62.15	3	405	0.00
Use of AI tools	0.6282	0.3946	0.5491	265.29	1	407	0.00
PSCL	0.4210	0.1772	0.9185	87.66	1	407	0.00

Table 2. Model summary of the mediation analysis

The direct effect analysis of the Digital Literacy of the University students is found to be positively related to their AI assisted learning perception with $R = 0.3246$ ($se = 0.0552$, $t = 5.885$, $p = 0.000$, $LLCI = 0.2162$, $ULCI = 0.4330$). The indirect or partial mediation path through students' Use of AI tools for academic purposes and their Peer-Supported Collaborative Learning (PSCL) is found to be significantly influenced their Digital Literacy and AI assisted learning perception. The total indirect effect of the mediation is found to be positive with significant ($p < 0.05$) value and $R = 0.2023$ ($se = 0.0416$, $LLCI = 0.1243$, $ULCI = 0.2910$). the total effect of the mediation, $R = 0.5269$, $p = 0.000$. So, it is affirmed that the direct path between the independent variable (Digital Literacy) and dependent variable (AI assisted learning perception) is partially mediated through the presence of Use of AI tools for academic purposes and their Peer-Supported Collaborative Learning (PSCL). So, the third null hypothesis (H_0-3) is rejected and affirmed that there is significant positive mediation effect exerted by the Use of AI tools and Peer Supported Collaborative Learning on the relation between students digital Literacy and their use of AI assisted learning.

The partial mediation analysis indicate that the AI assisted learning perception of the university students are significantly influenced by their Digital Literacy levels. Since the relationship is positive, the AI assisted learning perception of the university students can be cherished by improving their Digital Literacy skills. The Digital Literacy skills can be increased by the hands-on training on the Digital tools and assisting them with apt guidance to increase the confidence to use the Digital tools for assignments and academic learnings (Yazon et al., 2019). The analysis also indicates the positive mediatory influence of the Use of AI tools for academic purposes and their Peer-Supported Collaborative Learning (PSCL). The training sessions on the AI tools for deep academic learning and cherishing higher order learning skills for producing analytical and creative solutions are essential for the students (Lai, 2021; Wang et al., 2023). Teachers, policymakers and the administrators of the education systems have to provide these AI based training with the modification of the curriculum for improving higher order of Thinking Skills (HOTs) with the support of the AI based technology systems. The Peer-Supported Collaborative Learning (PSCL) also significantly influenced the student's learning perception. PSCL is increased through the collaborative academic assignments. Students may provide learning space for collaborative interactions through the technological systems. It is also suggested to have better wide collaboration beyond the classroom space of the individual institutions through the inter institute exchanges.

4 CONCLUSION

The research on the University students' perceptions on the impact of their Digital Literacy, Use of AI tools and Peer-Supported Collaborative Learning on AI assisted learning brought to light that there is significant impact is inserted by the measures on their learning perception. The university degree and Post Graduate students are considerably using the AI based technology systems for learning purpose. So, the Policy makers, academicians and the managements are responsible for providing academic systems for the reaping the benefits of this technology systems for creating better in-depth learning for the students. The ability for providing creative solutions for the humanity with analytical understanding of the abstract concepts are better implemented with the prudent AI integration in education systems.

4.1 Future Researches

This research primarily targeted young university students who are at the forefront of driving digital transformation initiatives. Further experimental and quantitative studies may be done with the actual academic performance of the students with respect to the use of the AI based tools. Longitudinal studies with respect to the pre-AI technology and use of AI tools are also needed for the better comparison of the learning scenario.

4.2 Conflict of Interest

The authors express no conflict of interest in the matters of this research. The researchers received no funds from any agency or government bodies.

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IMPACTE DE L'ALFABETITZACIÓ DIGITAL, ÚS D'EINES D'IA I COL-LABORACIÓ ENTRE IGUALS EN L'APRENTATGE ASSISTIT PER IA: PERCEPCIONS DELS ESTUDIANTS UNIVERSITARIS

Els sistemes educatius amb suport tecnològic s'han integrat perfectament a tot el món en resposta als reptes plantejats per la pandèmia de la Covid-19. Els ràpids desenvolupaments de les eines digitals amb suport de la Intel·ligència Artificial (IA) també es difonen fàcilment entre les comunitats educatives. Aquest treball de recerca investiga l'impacte sinèrgic de l'alfabetització digital, la incorporació d'eines d'IA i l'aprenentatge col·laboratiu amb suport entre iguals (PSCL) en les percepcions d'aprenentatge dels estudiants universitaris. La investigació pretén discernir les implicacions d'aquestes facetes tecnològiques i socials en les actituds dels estudiants cap al procés d'aprenentatge assistit per IA. Per a aquesta investigació descriptiva es va fer una enquesta estructurada basada en qüestionaris entre els estudiants universitaris. Es van analitzar 409 respostes recollides amb SPSS, Excel i Process Macro. S'ha trobat que l'alfabetització digital dels estudiants, l'ús d'eines d'IA i el PSCL en l'aprenentatge assistit per IA es van correlacionar positivament. El camí de mediació parcial a través de l'ús de l'eina PSCL i IA té una influència positiva significativa en el procés d'aprenentatge dels estudiants. Els coneixements recollits d'aquest estudi poden informar els educadors, els responsables polítics i les institucions sobre l'optimització de la fusió de l'alfabetització digital, les eines d'IA i el PSCL per millorar l'entorn d'aprenentatge contemporani. A mesura que les universitats naveguen per l'era digital, aquesta investigació proporciona una comprensió matisada de les dinàmiques que configuren les percepcions dels estudiants, oferint coneixements valuosos sobre els aspectes polièdrics de la IA que influeixen en el panorama educatiu.

PARAULES CLAU: Eines d'IA, alfabetització digital, aprenentatge col·laboratiu assistit per parells, aprenentatge assistit per ordinador, aprenentatge assistit per IA, aprenentatge personalitzat

IMPACTO DE LA ALFABETIZACIÓN DIGITAL, EL USO DE HERRAMIENTAS DE IA Y LA COLABORACIÓN ENTRE PARES EN EL APRENDIZAJE ASISTIDO POR IA: PERCEPCIONES DE LOS ESTUDIANTES UNIVERSITARIOS

Los sistemas educativos respaldados por tecnología se integraron perfectamente en todo el mundo en respuesta a los desafíos planteados por la pandemia de Covid-19. Los rápidos desarrollos de las herramientas digitales con soporte de Inteligencia Artificial (IA) también se difunden fácilmente entre las comunidades educativas. Este trabajo de investigación investiga el impacto sinérgico de la alfabetización digital, la incorporación de herramientas de inteligencia artificial y el aprendizaje colaborativo apoyado por pares (PSCL) en las percepciones de aprendizaje de los estudiantes universitarios. La investigación tiene como objetivo discernir las implicaciones de estas facetes tecnológicas y sociales en las actitudes de los estudiantes hacia el proceso de aprendizaje asistido por IA. Para esta investigación descriptiva se realizó una encuesta estructurada basada en cuestionarios entre los estudiantes universitarios. Se analizaron 409 respuestas recopiladas con SPSS, Excel y Process Macro. Se encuentra que la alfabetización digital, el uso de herramientas de IA y el PSCL sobre el aprendizaje asistido por IA de los estudiantes estaban correlacionados positivamente. La ruta mediadora parcial a través del uso de herramientas PSCL y AI tiene una influencia positiva significativa en el proceso de aprendizaje de los estudiantes. Los conocimientos recopilados en este estudio pueden informar a educadores, formuladores de políticas e instituciones sobre cómo optimizar la combinación de alfabetización digital, herramientas de inteligencia artificial y PSCL para mejorar el entorno de aprendizaje contemporáneo. A medida que las universidades navegan en la era digital, esta investigación proporciona una comprensión matizada de la dinámica que moldea las percepciones de los estudiantes, ofreciendo información valiosa sobre los aspectos multifacéticos de la IA que influyen en el panorama educativo.

PALABRAS CLAVE: Herramientas de IA, alfabetización digital, aprendizaje colaborativo asistido por pares, aprendizaje asistido por ordenador, aprendizaje asistido por IA, aprendizaje personalizado

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