

The Influence of AI on Training and Development among Teachers in Private Colleges: The Mediating Effect on Learning Agility on Skill Acquisition

S Porkodi¹, Sultan Saif Aldhamri², Lujaina Sulaiman AlJardani³, Ritham Saleh Altoobi⁴, Ahid Said AlAmri⁵, Hidaya AlSalami⁶

^{1,2,3,4,5,6} Department of Business Studies, College of Economics and Business Administration, University of Technology and Applied Sciences, Muscat, Sultanate of Oman.

ABSTRACT: Oman's education sector success relies on teacher quality, which requires continuous improvement in teaching and learning experiences. In this context, it is necessary to investigate the influence of artificial intelligence (AI) in training and development among teachers in private colleges on skill acquisition to achieve optimal performance for teachers, thereby enhancing student outcomes. The study's main goal was to explore the relationship between AI-driven training programs and how they influence skill acquisition, with learning agility mediating the relationship. The specific objectives were: 1) to assess the level of AI usage in training and development programs for skill acquisition among teachers working in Oman's private colleges; 2) to evaluate the mediating role of learning agility in the relationship between AI-based training and development and skill acquisition among teachers; and 3) to explore the perception of college teachers on AI tools in enhancing their ability to acquire skills through training. The study surveyed 200 teachers at 19 private colleges in Muscat, Oman, using quota sampling, focusing on 100 teachers with less than one year of experience and another 100 with more than one year of experience. The study uses a structured questionnaire with 28 demographic and Likert-scale questions and three open-ended questions and uses statistical analysis such as quartile analysis, mediation, and sentiment analysis. This study shows that the current level of AI use in college training programs is moderate. Mediation analysis revealed that AI training significantly improved the quality of skill acquisition through learning agility. Based on the knowledge gained from the results and conclusions, several recommendations were made.

KEYWORDS: AI in Training and Development, Skill Acquisition, Learning Agility, Teachers, Education sector

I. INTRODUCTION

The advent of Artificial Intelligence (AI)-driven tools in training and development has led to a substantial transformation in methodologies for employee training and development in several sectors. AI-driven programs have begun to provide personalized learning environments that cater to individual needs, significantly enhancing the quality of the training process (Meehir, 2023). These personalized environments have proven particularly effective in addressing diverse learning styles, ensuring that each participant receives the most relevant content for their growth. Furthermore, AI also streamlines administrative processes, such as grading exam papers and managing data, which allows educators to shift their focus to improving their skills and expanding their knowledge. This saves time and enhances the overall educational experience (Nomerovska, 2023). By addressing inequalities and promoting education as a vital component of sustainable development, UNESCO's SDG4 agenda seeks to guarantee free, fair, high-quality education and lifelong learning opportunities for everyone (Tatto, 2021). Consequently, the education sector of Oman plays a crucial role in skill acquisition and is highly emphasized across various sectors for skill acquisition (Porkodi et al., 2023). The development of teaching has stagnated over the years, with progress being slow and showing signs of aging. However, AI has introduced new methodologies and ways to enhance and add to the learning experience of both teachers and students (Cano and Troya, 2023). AI's ability to automate certain processes while simultaneously enriching content delivery offers educators a unique opportunity to redefine their roles. The transition has led to a significant shift from traditional teaching and decision-making methodologies, with AI-driven tools, such as chatbots (ChatGPT and Google Gemini), intelligent grading, and personalized learning systems, drastically changing the roles of educators in ways never seen before (Vellaichamy, 2023; Porkodi and Cedro, 2025). The role of skill acquisition and learning agility in teachers' growth and development is non-negotiable, as both factors play a significant role in shaping the outcome of the teaching process and how they reflect on students and their outcomes (Kaya, 2023). Teachers

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who are willing to learn more and experiment with different teaching methods are more likely to succeed in delivering information. This willingness to explore new methods highlights the impact of learning agility in creating an environment conducive to both teaching and student engagement. In this context, it is clear that AI-based training and development, coupled with learning agility, significantly influences the level of skill acquisition among teachers. While these factors individually impact teachers' skill acquisition, the combined effects of these elements are highly influential (Susanto et al., 2024).

II. PROBLEM STATEMENT

In a world where AI is becoming more relevant, and with the focus of Oman Vision 2040 on higher education, there is a place where AI could play a key role in the development of the education sector as a whole, and teachers specifically. In the case of teachers, AI can create a diverse range of educational materials that include different content tailored for students (Al-Riyami, 2024). The educational sector in Oman is in desperate need of major innovation in terms of content delivery. Over the past few years, Oman has demonstrated a strong interest in fostering education in the nation through strategy, policy formation, and technology, as well as training (Al Moosa and Porkodi, 2014). However, traditional methods often fail to meet the demands of modern learners in instigating passion and innovativeness, making AI-powered solutions essential for bridging this gap (Porkodi and Saranya, 2023). In the next stage, authorities concerned with training, development, and human resources should rely on AI and its applications to improve employee performance and expand their range of knowledge (Al Ramadhani, 2024; Porkodi and Tabash, 2024). To stay competitive and meet the requirements of the education process, Oman's education sector needs to continuously adopt the latest trends in AI. This makes it necessary for teachers to learn the newest tools available to enhance their learning experience. One of the challenges of this study is AI literacy. Forty-five percent of teachers reported feeling overwhelmed when encountering AI tools (Ding et al., 2024). Certain teacher demographics struggle to identify developmental opportunities using AI-powered tools. Despite numerous studies attempting to measure AI literacy, its assessment remains complex and ambiguous, owing to the continuous evolution of technology and procedures (Guerra et al., 2024). These studies indicate that AI literacy and resistance to change can hinder teachers' training and development. On the other hand, the role of learning agility, which is defined as the ability to rapidly learn and apply new skills, in enhancing teacher performance through AI-based tools remains underexplored. Regardless of the continuous advancements in AI and its integration into various educational sectors, the influence of AI tools on teachers' training and development remains inadequately defined (Sharma, 2024). The primary aim of this study was to investigate the influence of AI on the training and development, learning agility, and skill acquisition of teachers in private colleges in Oman. This aligns with the Sultanate of Oman's Vision 2040, which emphasizes enhancing education quality, strengthening teachers' capabilities, and preparing a skilled workforce to meet future challenges. By focusing on private colleges, this study highlights the potential of AI-powered tools to improve teaching practices and bridge skill gaps in Oman's higher education system. This study contributes to the body of knowledge on teacher training and development by highlighting the relationships between AI-driven tools, learning agility, and improved performance. The findings are expected to influence strategic decisions and policy adjustments, fostering an innovative culture in education, while ensuring alignment with national objectives.

III. RESEARCH OBJECTIVES AND QUESTIONS

The purpose of this study is to investigate how AI influences teacher training and development in skill acquisition, with particular emphasis on the mediating role of learning agility. This research aims to address the following specific objectives: (1) To assess the level of AI usage in training and development programs for skill acquisition among teachers in private colleges in Oman; (2) To evaluate the mediating role of learning agility in the relationship between AI-based training and development and skill acquisition among teachers in private colleges; (3) To explore college teachers' perceptions of AI tools to enhance their ability to acquire skills through training and development in Oman's private colleges.

To address these research objectives, the following research questions have been formulated:

- RQ1. What is the level of AI usage in training and development programs for skill acquisition among teachers in Oman's private colleges?
- RQ2. How does learning agility mediate the relationship between AI-based training, development, and skill acquisition among teachers working in Oman's private colleges?
- RQ3. What are the perceptions of private college teachers in Oman regarding the effectiveness of AI tools in enhancing their ability to acquire skills through training and development?

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IV. RELATED WORKS

The learning process must be innovative and creative to meet the evolving educational demands. AI has emerged in the field of education to assist with everyday tasks such as instruction and learning (Fitria, 2021). AI can analyze large volumes of data to reveal patterns in learning and student performance, guide instructional strategies, and assist teachers in identifying students who may be at risk (Southworth et al., 2023). AI can customize teachers' professional development according to their unique needs and strengths, similar to customizing learning for students (Cukurova et al., 2024). According to Coladarci (1992), effective professional training increases teachers' confidence levels and enhances their commitment to their teaching duties. When new strategies are introduced and AI is integrated, teachers who receive this type of training often exhibit high motivation and enthusiasm, leading to greater skill and knowledge development. In addition, training teachers and retaining them in educational institutions leads to an overall improvement in educational quality (Kirkpatrick et al., 2006). Al-Farsi (2022) explored the extent to which e-learning plays a significant role in developing and enhancing the skills of university students in Oman and preparing them for future employment. In this context, teacher training and the integration of AI with digital learning platforms are crucial factors for improving educational performance and implementing adaptive teaching (Valiakhmetova et al., 2024). Effective teacher training is essential for enhancing educators' skills and capabilities to meet new educational challenges. According to Murdan and Halkhoree (2024), while AI has the potential to enhance the learning experience in classrooms, its effective use requires advanced technologies such as cloud systems and smart devices.

In the context of teacher training and development, learning agility plays a significant role because it enables teachers to quickly adapt to emerging teaching trends without compromising the quality of their learning experience (DeRue et al., 2012). Unlike learning analytics, which focus on collecting and analysing data to evaluate learning outcomes and inform decision-making and have been studied extensively (Salas-Pilco et al., 2022), learning agility remains underexplored in research despite being vital to teachers' growth due to its emphasis on adaptability as a key element of continuous learning. The rapid development of the educational sector, especially with the integration of technologies such as AI, demands that teachers possess strong adaptability skills (Mbambo and Plessis, 2024). In this regard, Hoff and Smith (2020) define learning agility as the ability of individuals to learn new skills and abilities. The implementation of AI in the training of higher education teachers may be influenced by several factors, including a lack of awareness regarding the benefits of AI-powered tools. When teachers fully understand the benefits of these tools, such as creating tailored learning programs specifically for each student, enhancing engagement, and smoothing out repetitive tasks, they are more likely to gain acceptance (Ayed, 2023). Now that more students are exposed to the latest technology, they are starting to demand creative and innovative methods, many of which include AI-powered tools to be incorporated into teaching. Thus, AI literacy and resistance to change must be completely eliminated to smooth out the learning process. Furthermore, from the educator's perspective, there must be readiness and acceptance of these modern technologies, as AI is reshaping the learning experience for students and teachers alike (Das et al., 2023).

Previous research has produced a variety of topics on the role of AI in education, offering diverse perceptions and differing ideas. However, there is still a lack of studies specifically addressing the impact of AI in training and development programs aimed at acquiring skills for teachers in private colleges and other educational settings. While many studies have explored the impact of AI across various educational fields, there are notable gaps in certain areas, such as the application of AI in teacher training programs and how the agility of learning can be enhanced through AI, along with its role in improving and developing the acquisition of teaching skills. Based on the proposed study, the following hypotheses were framed as a foundation that depicts the relationships between the study variables, including AI-based training and development, learning agility, and skill acquisition:

H1: There is a significant level of AI usage in training and development programs for skill acquisition among teachers

Direct effect Hypothesis:

H2: AI-based training and development significantly influences skill acquisition among teachers

Indirect effect Hypothesis:

H3: Learning agility mediates the relationship between AI-based training, development, and skill acquisition among teachers in private colleges.

H3a: AI-based training and development influences Learning agility

H3b: Learning agility significantly influences skill acquisition

V. RESEARCH FRAMEWORK AND METHODOLOGY

A conceptual framework was developed based on previous research. The proposed model is illustrated in Figure 1. In the conceptual model, AI-driven training and development programs serve as independent variables, while skill acquisition was the dependent variable. Learning agility was a mediating variable. By analyzing the relationships among these factors, the aim is to

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understand how AI in training and development affects skill acquisition among teachers, and how learning agility influences the effectiveness of AI-based training programs in private colleges.

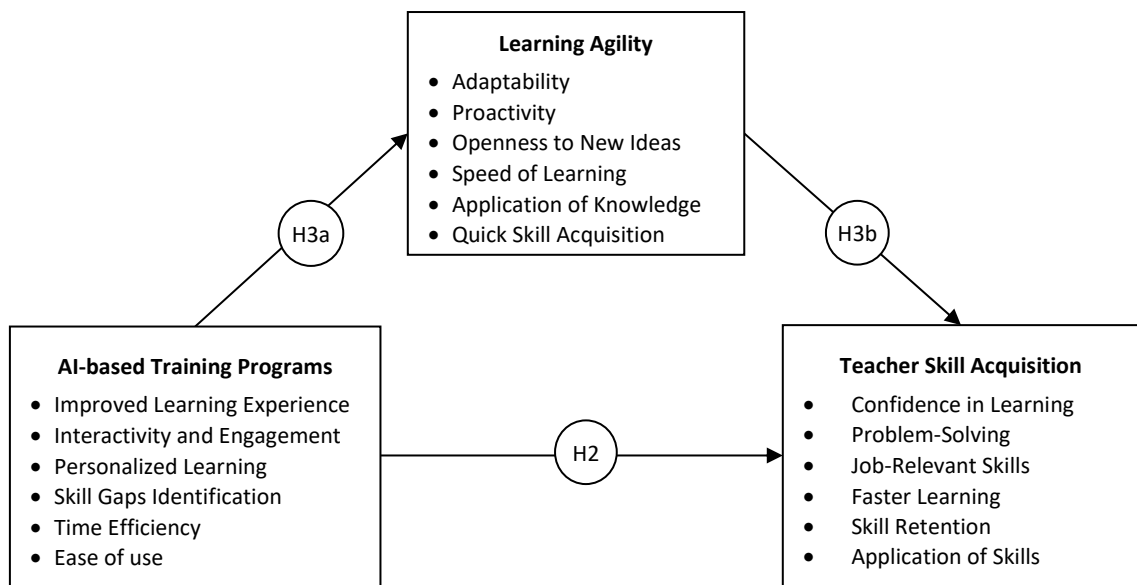


Figure 1: Conceptual Framework of the Proposed Model
 Source: Authors

A well-structured research design is essential for successful research, as it ensures the accurate collection of relevant data to effectively answer the research questions. In this study, an empirical research design was used. This study employs a mixed-method approach, gathering both quantitative and qualitative data, which helps in analyzing the effectiveness of AI-based training and its relationship with learning agility and skill acquisition. Most research studies rely on a specific target group from which the sample is drawn rather than surveying the entire population. This study applied a non-probability sampling method, specifically quota sampling, to obtain a representative sample of instructors employed in private colleges in Oman. The two quotas were Quota 1 for entry-level lecturers and Quota 2 for senior lecturers (those who had been working in the same institution for over a year). Among various job types, including administrative, academic, academic support, health services, helping services, technical, and residential supervisors, the study focuses specifically on three job types related to academic roles, as listed in Table 1, which include positions that are directly involved in the teaching and learning processes.

Table 1: Respondents with Job Types

Job Type	Females	Males	Total
Academic	2535	3743	6278
Academic support	56	71	127
Academic & Administrative	252	539	791
Total	2843	4353	7196

Source: Open Data Portal

In this proposed study, an online sample size estimator was used to determine the number of participants who meet the requirements of the target population. It used the following formula (Naing et al., 2022):

$$n = N * X / (X + N - 1)$$

$$\text{Where, } X = Z_{\alpha/2}^2 * p * (1-p) / MOE^2$$

where $Z_{\alpha/2}$ represents the value of the critical normal distribution at $\alpha/2$ (using a confidence level of 95%, α is 0.05, and the critical value is 1.96), MOE is the margin of error, p is the sample proportion, and N is the population size. In this study, the minimum sample size required was 136, considering the target population of 7,196 teachers working in private higher education institutions. Following discussions with experienced researchers, it was determined that the number of respondents would be 200

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individuals from the total population. Therefore, in the case of this proposed research, 200 samples were gathered, with Quota 1 comprising of 100 teachers who had less than one year of experience, and the second quota comprising 100 teachers who had more than a year of experience. A systematic questionnaire was employed to investigate the influence of AI in training and development in private colleges on skill acquisition and its mediating effect on learning agility. The questionnaire employed a dual approach, combining quantitative and qualitative methods, to collect comprehensive data, ensuring that both numerical insights and in-depth perspectives were captured. A Likert scale and open-ended questions in the questionnaire were used to collect both types of data. Three of the 31 questions on the survey were open-ended and required answers in one or two sentences, while the remaining 28 were closed-ended and used multiple-choice demographic questions and a five-point Likert scale to measure agreement on the study variables. For the closed-ended questions, the study used a 5-point Likert scale: (5) strongly agree, (4) agree, (3) neutral, (2) disagree, and (1) strongly disagree.

VI. RESEARCH RESULTS

This section illustrates the diverse quantitative and qualitative analyses conducted on the data obtained from the survey questionnaire. SPSS 24.0 software was used to determine the level of AI, and AMOS was used for mediation analysis in the study, while Orange 3.31.1, for sentiment analysis and word cloud preparation.

A. Quantitative Analysis

A quartile method was employed to assess the level of AI usage in training and development programs for teachers. The data gathered from the participants were categorized into three levels: low, medium, and high based on quartile thresholds. Those with scores below the 25th percentile exhibited minimal AI usage; those between the 25th and 75th percentiles showed moderate usage, while scores above the 75th percentile indicated high usage. Table 2 displays the levels of AI usage in the training programs, including the frequency count and percentage representation. Figure 2 shows a bar chart of the level of AI usage in the training programs.

Table 2: Distribution of Level of AI Training and Development Usage

Level	Frequency	Percent
Low	52	26.0%
Medium	97	48.5%
High	51	25.5%
Total	200	100.0%

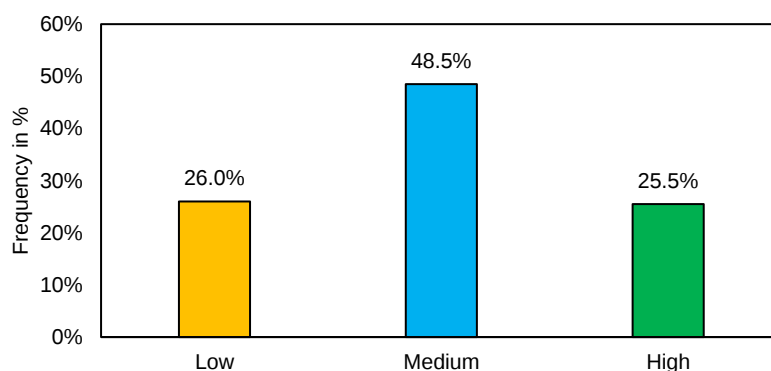


Figure 2: Level of AI Training and Development Usage

The results indicated that 26% of teachers reported low or no AI usage in their training programs, 48.5% showed moderate usage of AI, and 25.5% demonstrated greater usage of AI technology in their training programs. This supports Hypothesis H1.

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Furthermore, to evaluate the mediating role of learning agility in the relationship between AI-based training and development and skill acquisition among teachers, mediation analysis was conducted using the AMOS software. The direct and indirect effects of AI-based training and development on skill acquisition through learning agility were investigated using the full structural model, considering all variables. Table 3 presents the variables used in the model. The model, which includes paths a, b, and c, along with the AMOS graphic output, is shown in Figure 3.

Table 3: Variable Description for Mediation Analysis

Variables	Variable Name	Description	Constructs
Independent	AI_Training	AI in Training and Development	AITD1 - AITD6
Dependent	Skill_Acqu	Skill Acquisition	SA1 - SA6
Mediator	Learn_Agility	Learning Agility	LA1 - LA6

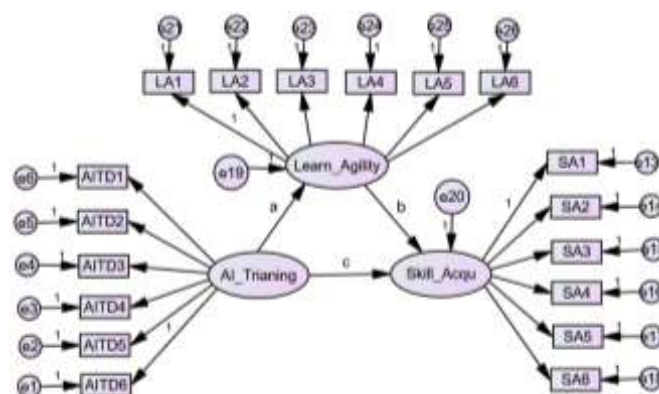


Figure 3: AMOS Structural Model for the Proposed Mediation Analysis

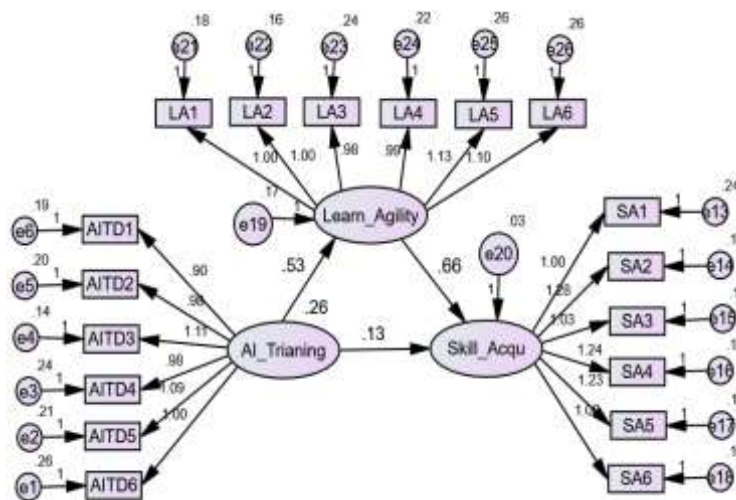


Figure 4: AMOS Graphic Output for the Proposed Mediation Analysis

Mediation analysis was conducted by obtaining the indirect, direct, and total effects from 'Analysis Properties' in AMOS and performing a bootstrap analysis with 500 bootstrap samples at a 95% confidence level. The output can be examined through 'Calculate Estimates'. Figure 4 shows the AMOS graphic output with the obtained regression weights and Table 4 displays the obtained regression weights. An unstandardized indirect effect was employed to analyze the indirect effect of mediation on the relationship between AI-based training and the development of skill acquisition through learning agility. The significance of an indirect effect can be determined by evaluating its lower and upper limits. The indirect effect of AI-based training on skill development via learning agility was 0.348, with a lower bound of 0.197 and upper bound of 0.546. The absence of a zero between the lower bound (LB) and upper bound (UB) values indicates that the indirect effect is significant. Additionally, the value of 0.005 at the intersection of AI_Training and Skill_Acqu indicated a two-tailed significance ($p < 0.05$). This indicates that learning agility

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mediates the association between AI-based training and skill acquisition, exhibiting an indirect impact of 0.348 ($a \times b \Rightarrow 0.525 \times 0.662$ as shown in Table 4).

Table 4: Regression Weights for the Variable Relationships

Relationships	Estimate	S.E.	C.R.	P	Label
Learn_Agility <--- AI_Training	.525	.083	6.319	***	a
Skill_Acqu <--- AI_Training	.135	.051	2.656	.008	b
Skill_Acqu <--- Learn_Agility	.662	.087	7.650	***	c
AITD4 <--- AI_Training	.978	.104	9.438	***	
AITD3 <--- AI_Training	1.109	.102	10.876	***	
AITD2 <--- AI_Training	.984	.101	9.783	***	
AITD1 <--- AI_Training	.897	.094	9.578	***	
AITD5 <--- AI_Training	1.092	.108	10.099	***	
AITD6 <--- AI_Training	1.000				
SA3 <--- Skill_Acqu	1.033	.119	8.698	***	
SA4 <--- Skill_Acqu	1.242	.129	9.602	***	
SA5 <--- Skill_Acqu	1.229	.134	9.156	***	
SA6 <--- Skill_Acqu	1.082	.126	8.602	***	
SA2 <--- Skill_Acqu	1.276	.138	9.275	***	
SA1 <--- Skill_Acqu	1.000				
LA2 <--- Learn_Agility	.996	.091	11.004	***	
LA3 <--- Learn_Agility	.978	.099	9.874	***	
LA4 <--- Learn_Agility	.986	.097	10.196	***	
LA5 <--- Learn_Agility	1.126	.108	10.397	***	
LA6 <--- Learn_Agility	1.103	.107	10.343	***	
LA1 <--- Learn_Agility	1.000				

The next step was to evaluate the type of mediation (full or partial). This can be performed by evaluating the direct path (Path c) from AI-driven training and development to skill acquisition. However, Table 4 shows that AI-based training and development had a significant relationship with skill acquisition (Path c: $b = 0.135$, $p < 0.05$). As the direct effect of AI training on Skill_Acqu (0.135) remains significant, this indicates that learning agility partially mediates the relationship between AI-based training and development and skill acquisition. The results are summarized in Table 5.

Table 5: Summary of Mediation Analysis

Relationship	Direct Effect	Indirect Effect	Confidence Interval		P-value	Conclusion
			Lower Bound	Upper Bound		
AI_Training→Learn_Agility→Skill_Acqu	0.135	0.348	0.197	0.546	0.005	Partial Mediation

The results revealed a significant direct relationship between AI-based training and development on skill acquisition ($b = 0.135$, $p < 0.05$). Hence, it supports H2. Moreover, it was found that there is a significant indirect relationship between AI-based Training and the Development on Skills Acquisition in the presence of Learning Agility ($b = 0.348$, $p < 0.05$), supporting Hypothesis H3(H3a and H3b). Hence, Learning Agility partially mediates the relationship between AI-based training and the development on skills acquisition.

B. Qualitative Analysis of Teachers' Sentiments

A bar chart titled 'AI's Impact on Teacher Training Quality' showing sentiment scores. The y-axis is labeled 'Sentiment Scores' and ranges from 0.0 to 1.0. The x-axis is labeled 'AI's Impact on Teacher Training Quality'. There are four bars: Positive (red, 0.18), Negative (green, 0.03), Neutral (blue, 0.79), and Compound (yellow, 0.27). A legend at the top identifies the colors: Positive (red), Negative (green), Neutral (blue), and Compound (yellow).

Sentiment	Score
Positive	0.18
Negative	0.03
Neutral	0.79
Compound	0.27

From the overall analysis of participants' responses, it was inferred that customizing resources streamlined lesson planning, offered data-driven insights, automated tasks, increased productivity, supported teacher training, encouraged teamwork, and facilitated adaptive learning through analytics, interactive tools, and intelligent tutoring.

The results indicate that AI training faces challenges due to reliability concerns, such as providing inaccurate data and hindering learning. Furthermore, challenges such as technical difficulties, high costs, and resistance to change make the adoption of AI difficult. Security issues, including data privacy concerns, lack of access to reliable tools, and biases in AI-generated information,

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also pose significant obstacles. Limited training and difficulties in integrating existing technologies further hinder effective use. Adapting to rapid technological changes is time-consuming and remains a significant challenge. Even after adoption, a reduction in human interaction and over-reliance on technology raises concerns.

Similarly, a detailed analysis of suggestions for improving AI integration in teacher training programs was conducted. Thus, the response to the question, “What suggestions do you have for improving the integration of AI into teacher training programs?” was assessed using keyword analysis. Figure 7 shows a bar chart of the 25 most important keywords for the question.

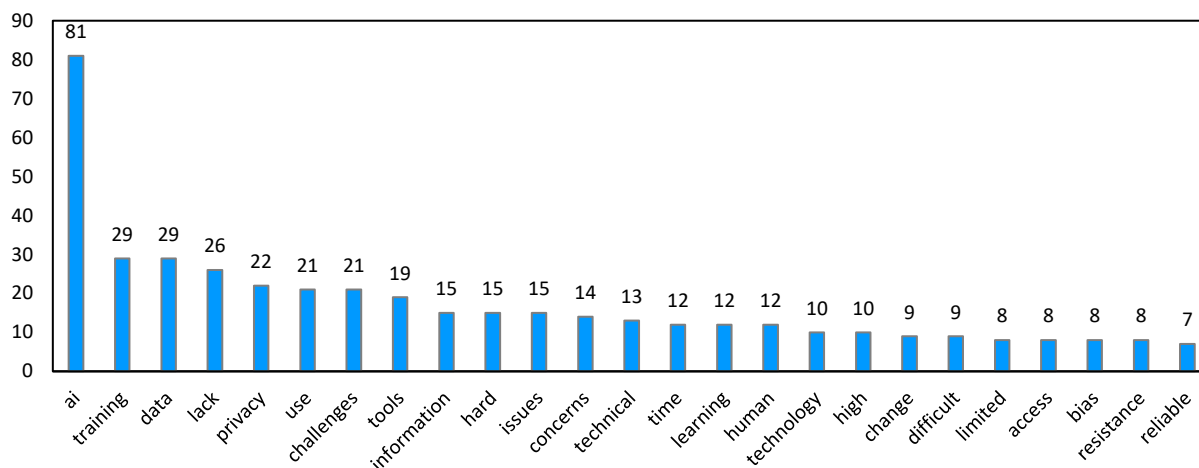


Figure 7: Top 25 Frequent Keywords for the Responses related to suggestions of Teachers

Thus, according to teachers’ opinions, improving AI integration in teacher training requires institutions to provide hands-on workshops, ethical AI guidelines, and easy-to-use AI tools. Training should focus on AI literacy, responsible use, and integration with existing teaching methods. AI should enhance, not replace, human interaction and support personalised learning, real-time feedback, and adaptive assessments. Collaboration among educators, AI developers, and policymakers is essential. Accessible and affordable AI solutions, with continuous updates and support, will help teachers stay abreast of AI advancements. Ethical considerations, data privacy, and inclusivity should be prioritized when creating an AI-powered education system.

VII. DISCUSSION

Teachers’ training programs are increasingly recognized as key determinants of educational quality in Oman’s private education sector. Salas-Pilco et al. (2022) found that AI integration in teacher education is progressing more slowly than in other fields, suggesting the need for greater focus on educational strategies for implementation. Valiakhmetova et al. (2024) found that the sudden rise in digital platforms, due to their ability to introduce more convenient and adaptable learning environments may have ignited interest in introducing the latest AI technologies into teacher training. Despite the studies being directed towards the integration of AI in training and development and the effectiveness of teacher training programs, none of them explore the level of usage of AI in training and development programs for teachers. From the analysis, it was found that 26% of teachers categorized in the lower quartile, often displayed minimal usage levels, and 48.5% of the teachers were categorized under the medium level, displaying medium usage levels. Therefore, there is room for improvement in the inclusion of AI in the training programs. This aligns with the findings of Salas-Pilco et al. (2022), who noted that AI in the educational sector is progressing more slowly than in other fields.

Furthermore, regardless of the numerous studies that have explored teacher motivation and technology adoption, research focusing on the mediating role of learning agility in teacher training remains limited. This study addresses this gap by analyzing the direct relationship between AI training among teachers and future skill acquisition and the indirect relationship between training programs and the teacher learning experience through learning agility. The results illustrate that while the direct effect of AI_Training on Skill_Acqu ($b = 0.135$, $p < 0.05$) remained significant, the indirect effect ($b = 0.348$, $p < 0.05$) was greater in the presence of Learn_Agility. The findings revealed that the direct relationship was weak, whereas the indirect relationship, with agility as a mediating factor, was positive and significant. This indicates that Learning Agility plays a crucial role in linking AI-based Training and Development on Skill Acquisition. These results align with the findings of Mbambo and Plessis (2024), who emphasized the importance of adopting professional development programs that focus on fostering learning agility.

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This study aimed to investigate college teachers' perceptions of the role of AI tools in enhancing their ability to acquire skills through training and development in private colleges. The results of the qualitative analysis show that most educators have a positive feeling (54%) about AI technologies because they understand how these tools can help teachers learn new skills, customize their training, and increase the effectiveness of their instruction. Nevertheless, several difficulties were encountered in this study. Privacy concerns are among the most prevalent, as they raise concerns regarding the use and storage of personal data. Teachers also mentioned the necessity of appropriate training to use AI technologies efficiently, pointing out that the full benefits of AI cannot be realized without an adequate understanding. Concerns about data leaks and the possibility of illegal access to private data were also brought to light. The complete integration of AI into training programs was also thought to be hampered by technical problems such as infrastructure shortages or system breakdowns. Despite these difficulties, most educators concurred that when used carefully and with sufficient assistance, AI can be a useful tool for their professional growth.

VIII. STUDY IMPLICATIONS

The results of this study have several theoretical implications. This study focused on a specific number of private colleges in the Sultanate of Oman. Consequently, the findings may not be generalizable to all private colleges or the broader higher-education sector in Oman. This study offers some practical implications for training and development instructors, as well as for policymakers in the education sector. The education sector must incorporate activities or workshops to integrate exercises that promote learning agility through problem-solving and adaptive learning. They must emphasize real-world applications during AI training sessions, as respondents value practical, directly applicable solutions. To improve accessibility, training should be offered in multiple language options, and concerns raised by teachers about language barriers hindering AI adoption should be addressed. They should also actively seek and incorporate teachers' feedback on training materials to ensure that the content is relevant, beneficial, and more effectively supports skill acquisition. Collaboration and transparency between policymakers and teachers should be strengthened to ensure that training content is both practical and aligned with on-the-ground needs. It is essential to address concerns about data privacy by developing and enforcing appropriate regulations to safeguard teachers' data. Institutions should focus on enhancing, rather than replacing, existing teaching practices through AI-driven training, ensuring that human interaction remains a central component supported by technological tools.

IX. CONCLUSION

Based on a broad study, initially, using the quartile approach, the level of AI usage in training and development for teachers in private colleges was evaluated to investigate its effect on skill acquisition. Second, this study assessed how learning agility mediated the relationship between skill acquisition and AI-based training and development. The findings showed that, in the presence of learning agility, mediation analysis also revealed a positive and statistically significant indirect effect. The indirect effect was larger, even though the direct effect of AI-based training on skill acquisition was still considerable, suggesting that learning agility is a crucial component that amplifies the benefit of AI-based training on skill growth. Third, sentiment analysis showed that the majority of participants' responses to open-ended questions expressed positive feelings, with a small percentage expressing negative sentiments. The results of this study indicate that improving instructors' skill acquisition at Oman's private colleges requires staff involvement and training. Given the ongoing changes in the education sector and the use of emerging technologies, especially AI, college administrators must utilise this data effectively to stay ahead of the curve in educational institutions.

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