

Agentic AI as a Digital Mentor for Student Teachers: A Quantitative Study on Internship Management and Teaching Readiness

**Dr. Praveen Kumar T D¹; Dr. Sarita Soy²; Dr Kalyani K³; Dr Roopa A N⁴; Dr. Rama Kant⁵; Sandeep
Kumar Pathak⁶**

¹Assistant Professor, Department of Education, Doctor Harisingh Gour Vishwavidyalaya, Sagar, Inida

²Assistant Professor, Faculty of Education, Waymade College of Education, Charutar Vidya Mandal (CVM)
University, Anand, Gujarat, India

³Guest Faculty, Department of Education, Bangalore University, Jnanabharathi Mysore Rd, Jnana Bharathi,
Bengaluru, Karnataka, India

⁴Principal, Kittur Rani Chennamma Residential School, Doddaballabpur, Bengaluru, India

⁵Assistant Professor, Department of Education, Doctor Harisingh Gour Vishwavidyalaya, Sagar, India

⁶Research Scholar, Department of Education, Doctor Harisingh Gour Vishwavidyalaya, Sagar, MP, India

Corresponding Author Email: ap_praveent@dhsgsu.edu.in

Abstract—This study examined the role of agentic artificial intelligence as a digital mentoring support system for student teachers in managing academic, pedagogical, and reflective tasks related to their internships. The study was a quantitative survey of 180 B.Ed. student teachers. and the Integrated Teacher Education Programme. Data were gathered using the Agentic AI Usage Scale, Internship Management Readiness Scale, and Teaching Readiness Scale. Experts validated the tools; Cronbach's alpha coefficients were .88, .91, and .89, respectively, indicating satisfactory reliability.

The findings indicated that Agentic AI usage ($M = 3.72$, $SD = 0.61$), internship management readiness ($M = 3.84$, $SD = 0.58$), and teaching readiness ($M = 3.79$, $SD = 0.60$) among student teachers were of moderate to high levels. Pearson's correlation analysis found a significant positive correlation between Agentic AI usage and internship management readiness ($r = .64$, $p < .001$). Pearson's correlation analysis also showed a significant positive correlation between Agentic AI usage and teaching readiness ($r = .68$, $p < .001$). Internship management was also strongly correlated with teaching readiness ($r = .71$, $p < .001$). Agentic AI usage was seen to predict teaching readiness among student teachers to a moderate to high degree with $F(1, 178) = 151.42$, $p < .001$, at the rate of approximately 46%, with Agentic AI usage ($R^2 = .46$) leading to higher teaching readiness among students on the basis of a regression analysis with ($\beta = .68$, $t = 12.30$, $p < .001$) as the coefficient of regression of this study.

The results indicated that student teachers with a high level of AI agent use reported better task planning during the internship, prepared lesson plans in advance, wrote better reflective reports, and were more confident in handling lessons than those with a low level of AI agent use. ANOVA showed that high, moderate, and low use differed, $F(2, 177) = 34.86$, $p < .001$. Post hoc comparisons showed that high-scoring students differed from moderate- and low-scoring students. The research concluded that an AI agent would support task management, reflective writing practice, and improved pedagogical practices and lesson plans, leading to better teaching practices, and could serve as a digital mentor. The study concluded that teacher education curricula

should incorporate structured support for task management, reflective practice, and improved pedagogies and lesson plans through an AI-based support system to meet future challenges and strengthen practice and professional preparation.

Keywords: Agentic AI, digital mentor, student teachers, internship management, teaching readiness, pedagogical competence, teacher education.

I. INTRODUCTION

Internship is one of the most important components of teacher education because it provides student teachers with opportunities to translate theoretical knowledge into classroom practice. During internship, student teachers are expected to prepare lesson plans, teaching-learning materials, assessment activities, observation records, reflective diaries, action plans, classroom management strategies, and teaching reports. These tasks require planning, self-regulation, pedagogical decision-making, reflective thinking, and continuous professional organisation. However, many student teachers struggle to manage internship tasks systematically because internships involve academic, emotional, administrative, pedagogical, and reflective responsibilities at the same time.

Authentic teaching experiences, engagement in reflective practice, and a close connection between theory and practice help student teachers consolidate their competence. Internship should not be considered merely a school immersion program. It is a well-structured professional learning experience that can train student teachers to become ready, self-confident, reflective teachers (Korthagen, 2010; Schön, 1983) and identity-shaping professional educators. Internships create pressure during professional knowledge construction, as student teachers must manage multiple tasks within limited time. They plan lessons, teach classes, observe mentors, prepare teaching aids, keep performance records, respond to feedback, and reflect on the experience. There seems to be no well-structured support for self-regulation training to help student teachers cope effectively with these tasks. The internship could easily become another piece of paperwork rather than a meaningful experience.

In recent years, artificial intelligence has increasingly penetrated teacher education as a helpful tool for learning, planning, feedback, reflection, and decision-making. It is discussed in a variety of contexts (personalisation of learning, automation of feedback-giving, learning analytics, intelligent tutoring and academic support) (Kasneci et al., 2023; Zawacki-Richter et al., 2019). Educational chatbots and conversational intelligent systems can serve as student companions, providing support, interaction, guidance, and motivation, and helping learners receive assistance when needed (Kuhail et al., 2023; Okonkwo & Ade-Ibijola, 2021). However, beyond pleasant conversation, it is important to explore its potential for learning and teaching by developing it as an 'agentic artificial intelligence' that can function as a task-supportive, semi-autonomous assistant working toward a predetermined goal/outcome. Teacher education is a suitable context that can support the agency idea of AI since it may take the role of an assistant for student teachers in scheduling tasks, designing lesson plans, monitoring progress, generating prompts for reflection, organising records from the internships, assisting with proposing pedagogical strategies and supporting student teachers for their real-life teaching ahead.

This study explores agentic AI as a digital mentor for student teachers. The term "mentor" is chosen because agentic AI is not intended to replace teacher educators or mentor teachers. Its primary function is to offer consistent, personalised, and structured assistance to student teachers whenever they seek guidance between formal consultation or supervision meetings. In essence, agentic AI operates in a supportive rather than a substitutive role, enabling student teachers to organise internship duties more effectively, plan better lessons, reflect more deeply on teaching experience, and prepare for classroom performance. The argument that meaningful and powerful applications of ICTs can be built only if technological, pedagogical, and content knowledge are interwoven, rather than treating technologies without concern for pedagogies, also holds true for agents in the era of artificial intelligence of things (Mishra & Koehler, 2006; Mishra, 2005).



This study investigated whether there is a significant relation between internship management readiness, teaching readiness and the use of agentic AI among student teachers; whether the use of agentic AI can predict student teachers' teaching readiness; and whether student teachers of low, moderate and high-use groups of agentic AI usage could report differences in teaching readiness.

I.I. REVIEW OF RELATED LITERATURE

AI use is becoming a focus of research to help personalise learning, adapt feedback, generate content, and analyse learning progress, helping academics make decisions. Zawacki-Richter et al (2019) (2019) reviewed the application of AI in higher education and noted that the majority of literature described the use of AI on learner's profiles and activities for support, prediction and assessment and for intelligent tutoring and stated the majority of published work has been concentrated on the systems, not on teachers nor teaching processes and suggested that there be more research in this area focusing on educators.

Kasneci et al. (2023) refer to teacher education as AI for teachers, noting that it can involve lesson plans & reflections; in teacher training, students need to develop a responsible & pedagogically meaningful use of AI rather than a mechanical dependence on it.

Educational chatbots are AI-based conversational tools that can provide guidance, interaction, and support to learners. Okonkwo and Ade-Ibijola (2021) conducted a systematic review of chatbot applications in education and found that chatbots can support learning assistance, tutoring, information delivery, and academic engagement. Similarly, Kuhail et al. (2023) reviewed educational chatbots and reported that chatbot interaction can support learning processes through dialogue, guidance, feedback, and engagement.

These studies provide a foundation for understanding agentic AI as a digital mentor. While chatbots generally respond to learner queries, agentic AI can support a broader range of task-oriented functions such as planning, tracking, monitoring, prompting, and organising learning actions. In internship management, such functions are highly relevant because student teachers need continuous support in managing multiple academic and professional responsibilities.

Teacher education research has emphasised that integrating digital technology should be connected to authentic teaching practice. Tondeur et al. (2012) synthesised qualitative evidence on preparing pre-service teachers to integrate technology and found that effective preparation requires role modelling by teacher educators, learning technology by design, authentic experiences, collaboration, reflection, and institutional support. This is directly relevant to the present study because agentic AI should be introduced as part of pedagogical preparation rather than as a separate technical activity.

Mishra and Koehler (2006) argue that effective technology use in teaching requires a synthesis of technology, pedagogy, and content, and they support TPACK for this purpose. If student teachers use agentic AI only to generate content, its pedagogical value may remain limited. However, if student teachers use AI to refine learning objectives, design learner-centred activities and assessments, plan reflective questions, or improve classroom strategies, and the results reflect a combination of techno-pedagogical content knowledge, then AI may contribute to teaching readiness.

In teacher education, the internship is prominent since students gain professional experience through practice. Learning in teacher education should be understood as situated and practice-oriented, as Korthagen (2010) suggests. Not only from theoretical knowledge, but students also learn from practical experience in the classroom and rethink what they have done. Reflection-in-action and reflection-on-action are regarded as significant elements in professional learning too, as Schön (1983) suggests.

Teaching readiness refers to student teachers' preparedness to perform teaching-related responsibilities with confidence and competence. It includes lesson planning, instructional delivery, classroom interaction, use of teaching-learning materials, assessment planning, classroom management, reflective practice, and professional responsibility. Shulman (1986) argued that teaching requires pedagogical content knowledge, which means the ability to transform subject matter into teachable forms. Therefore, teaching readiness cannot be reduced to content knowledge alone; it includes pedagogical organisation and decision-making.

Internship management requires self-regulated learning because student teachers must plan, monitor, and evaluate their own tasks. Zimmerman (2002) described self-regulated learning as a process in which learners actively manage their goals, strategies, motivation, and performance. During an internship, student teachers need to set goals, organise teaching files, meet deadlines, reflect on feedback, and improve classroom performance. Agentic AI can support these self-regulatory processes by providing reminders, structured prompts, task planning, and reflective guidance.

I.II. RESEARCH GAP

1. Existing literature has examined AI in education, educational chatbots, teacher technology integration, and reflective practice. However, empirical research on using agentic AI as a digital mentoring system for student teachers during internship remains limited. Most AI studies focus on students' learning outcomes, general applications in higher education, or chatbot-based academic support.
2. Teacher education studies often focus on ICT integration and digital competence, but they pay less attention to how agentic AI may support internship management, reflective documentation, lesson planning, and teaching readiness. Therefore, the present study attempts to fill this gap by quantitatively examining the relationship between agentic AI usage, internship management readiness, and teaching readiness among student teachers.

I.III. OBJECTIVES OF THE STUDY

1. To assess the level of agentic AI usage among student teachers.
2. To assess the level of internship management readiness among student teachers.
3. To assess the level of teaching readiness among student teachers.
4. To examine the relationship between agentic AI usage and internship management readiness.
5. To examine the relationship between agentic AI usage and teaching readiness.
6. To examine the relationship between internship management readiness and teaching readiness.
7. To find out whether agentic AI usage significantly predicts teaching readiness.
8. To compare teaching readiness among low, moderate, and high agentic AI user groups.

Hypotheses of the Study

H₀₁: There is no significant relationship between agentic AI use and internship management readiness among student teachers.

H₀₂: There is no significant relationship between agentic AI use and teaching readiness among student teachers.

H₀₃: There is no significant relationship between internship management readiness and teaching readiness among student teachers.

H₀₄: Agentic AI usage does not significantly predict teaching readiness among student teachers.

H₀₅: There is no significant difference in teaching readiness among low-, moderate-, and high-agentic AI user groups.

II. RESEARCH METHODOLOGY

- The study adopted a descriptive survey research design.
- The population of the study consisted of student teachers enrolled in a 2-year Bachelor of Education (B.Ed) Program. The population included student teachers who were preparing for or undergoing pre-internship and internship-related teaching tasks.

- The sample consisted of 180 student teachers. The sample included student teachers from the B.Ed. Programme. Participants were exposed to lesson planning, teaching skill practice, internship documentation, classroom observation, preparation of teaching-learning materials, and reflective writing.
- The study used purposive sampling. The study selected student teachers with experience using digital tools and involvement in pre-internship or internship-related tasks.

II.I. SAMPLE DISTRIBUTION

Table 1: Distribution of Sample

Category	Group	Number	Percentage
Programme	B.Ed.	180	55.56
Total		180	100
Gender	Male	78	43.33
	Female	102	56.67
Total		180	100
Agentic AI usage group	Low	46	25.56
	Moderate	84	46.67
	High	50	27.77
Total		180	100.00

The sample distribution shows that the study included B.Ed. programme student teachers. The study classified participants as low, moderate, or high agentic AI users to compare teaching readiness across AI usage groups.

III. TOOLS USED IN THE STUDY

- The **Agentic AI Usage Scale** (five-point Likert scale). Higher scores indicated higher agentic AI usage.
- The **Internship Management Readiness Scale**. Higher scores indicated greater readiness for internship management.
- The **Teaching Readiness Scale** measured student teachers' perceived readiness for classroom teaching. Higher scores indicated higher teaching readiness.

III.I. VALIDATION AND RELIABILITY OF TOOLS (EXPERT REVIEW AND ITEM FINALISATION OF RESEARCH TOOLS)

Table 2: Initial, Modified, Deleted and Final Items after Expert Review

Sl. No.	Tool	Initial Items	Modified Items	Deleted Items	Final Items after Expert Review
1	Agentic AI Usage Scale	36	14	6	30

2	Internship Management Readiness Scale	36	14	6	30
3	Teaching Readiness Scale	40	16	8	32

Table 3: Overall Summary of Tool Validation after Expert Review

Sl. No.	Tool	Initial Items	Modified Items	Deleted Items	Final Items	No. of Dimensions	Cronbach's Alpha
1	Agentic AI Usage Scale	36	14	6	30	6	.88
2	Internship Management Readiness Scale	40	16	5	35	7	.91
3	Teaching Readiness Scale	40	16	8	32	8	.89
	Total	116	46	19	97	21	—

The study included 116 items across three tools to address the research questions. The Agentic AI Usage Scale had 36 items, the Internship Management Readiness Scale had 40, and the Teaching Readiness Scale had 40. Seven experts in teacher education, educational technology, supervision, measurement and evaluation, and ICT in education reviewed the items for relevance, clarity, suitability of dimensions, appropriateness of language, duplication, and applicability to student teachers' internship context. Based on their suggestions, the researchers modified 46 items and deleted 19 items. Finally, 97 items remained across the three tools, including 30, 35, and 32 items in the Agentic AI Usage Scale, Internship Management Readiness Scale, and Teaching Readiness Scale, respectively. The tools showed satisfactory internal consistency (Cronbach's alpha: .88, .91, .89, respectively).

III.II. DATA COLLECTION AND STATISTICAL TECHNIQUES USED

Data were collected from 180 student teachers using a Google Form in WhatsApp groups. The tools were administered in sequence. Subjects took part in all three tools. After data collection, the data were coded and fed into statistical software for analysis.

The statistical analyses used in this research were descriptive analysis, Pearson product-moment correlation, Simple linear regression, One-way ANOVA, and corresponding post hoc analyses if significant. Levels of significance were fixed at .05 and .01, and results with $p < .001$ were considered significant.

IV. DATA ANALYSIS AND INTERPRETATION

LEVEL OF AGENTIC AI USAGE, INTERNSHIP MANAGEMENT READINESS, AND TEACHING READINESS

Table 4: Descriptive Statistics of Major Variables

Variable	N	Mean	SD	Level
Agentic AI Usage	180	3.72	0.61	Moderately High
Internship Management Readiness	180	3.84	0.58	Moderately High

Teaching Readiness	180	3.79	0.60	Moderately High
--------------------	-----	------	------	-----------------

Table 4 shows that student teachers showed a moderately high level of agentic AI usage ($M = 3.72$; $SD = 0.61$). This means student teachers used agentic AI to seek support for their internship-related activities, although not yet at a high level. Based on responses closer to the high end, AI was likely used for lesson planning, writing reflections, creating teaching materials, organising work, and designing teaching approaches.

The internship management readiness was also moderately high ($M = 3.84$, $SD = 0.58$). This means the student teachers generally had a reasonable level of readiness to organise lesson plans, keep internship records, manage teaching tasks, and record reflections during the school internship. Student teachers' teaching readiness was also moderately high ($M = 3.79$, $SD = 0.60$). This indicates that student teachers felt mainly ready for practice, yet they could still use AI to enhance their readiness and build their professional competence.

Tondeur et al. (2012) echoed this in their research: when student teachers use technology in relation to actual teaching, their use becomes more meaningful. So, using agentic AI as support or an aid for internship-related tasks may create a practical support system. The above findings go hand in hand with Kasneci et al. (2023) (2023) too. They state that generative AI tools could improve communication in education by providing explanations, feedback, and support for writing and learning through their pedagogical functions.

H01: There is no significant relationship between agentic AI use and internship management readiness among student teachers.

Table 5: Correlation between Agentic AI Usage and Internship Management Readiness

Variables	N	r	p value	Result
Agentic AI Usage and Internship Management Readiness	180	.64	< .001	Significant

Table 5 shows a significant positive relationship between agentic AI use and student teachers' internship management readiness ($r = .64$, $p < .001$). Therefore, H01 is rejected. Student teachers who used more agentic AI were perceived as more ready to manage their internship tasks.

The positive correlation coefficient (.64) indicates that agentic AI usage was positively associated with the organisation of lesson plans, the timely completion of internship records, the preparation of teaching-learning material, the documentation of internship-related information, and planning. Hence, agentic AI helped student teachers plan, monitor, and organise, thereby enhancing their self-regulation, which may result in greater readiness to complete the internship task.

Zimmerman's theory of self-regulated learning further explains this, stating that "effective learners regulate goals, strategies, performance and reflection" (2002). Internship management requires similar regulatory processes. An agentic AI can support these processes through structured prompts, reminders, planning, and feedback. This aligns with research on chatbots, as AI-based conversational systems can provide the educational support, guidance, and interaction needed to complete these tasks (Kuhail et al., 2023; Okonkwo & Ade-Ibijola, 2021).

H02: There is no significant relationship between agentic AI use and teaching readiness among student teachers.

Table 6: Correlation between Agentic AI Usage and Teaching Readiness

Variables	N	r	p value	Result
Agentic AI Usage and Teaching Readiness	180	.68	< .001	Significant

Table 6 shows a significant positive relationship between subjects' AI use and their agentic function and teaching readiness ($r = .68, p < .001$). Therefore, H02 was rejected, and AI use with agentic function was associated with increased teaching readiness.

The correlation coefficient ($r = .68$) indicates a strong relationship. This indicates that agentic AI may enhance teaching readiness among student teachers by helping them draft improved lesson plans, devise learning objectives, organise content, select effective teaching strategies, formulate assessment questions, prepare reflective notes, and boost the confidence crucial for classroom instruction.

Mishra & Koehler's (2006) TPACK framework supports this idea, arguing that effective technology use in teaching requires integrating technological, pedagogical, and content knowledge. If agentic AI not only generates lessons but also helps teachers revise them for pedagogical effectiveness and prompts reflection, it would definitely enhance teaching readiness. My findings support Shulman's idea that teaching requires PCK because, with agentic AI, teachers can transform ideas into manageable classroom forms, which requires PCK, and their readiness is enhanced (1986).

H03: There is no significant relationship between internship management readiness and teaching readiness among student teachers.

Table 7: Correlation between Internship Management Readiness and Teaching Readiness

Variables	N	r	p value	Result
Internship Management Readiness and Teaching Readiness	180	.71	< .001	Significant

Table 7 shows that internship management readiness and teaching readiness were correlated ($r = .71, p < .001$). This meant that H03 was rejected. Furthermore, the result implied that student teachers who were better prepared to manage their internship tasks had higher teaching readiness.

Such a strong association indicates that the organisation of the internship at the school is related to teaching readiness. Student teachers who prepare lesson plans and records systematically, categorise their teaching materials, cope with their mentors' feedback, and keep diaries are likely to feel ready to teach in the classroom. Hence, school management of internships is not just administrative; it has significant pedagogical implications.

This is further supported by Schön's concept of reflective practice (Schön 1983) and Korthagen's situated learning (2010). Learning occurs through the cycle of planning, action, feedback, reflection, and systematic management; students develop clearer thinking, vision, confidence, and skills to join the workforce. This aligns with Darling-Hammond, who argues that, to strengthen the teacher education curriculum, the education and training in both should more closely mirror the practice of teaching others (2006).

H04: Agentic AI usage does not significantly predict teaching readiness among student teachers.

Table 8: Model Summary of Regression Analysis

Predictor	R	R ²	Adjusted R ²	F	df	p value
Agentic AI Usage	.68	.46	.46	151.42	1, 178	< .001

Table 9: Regression Coefficient for Predicting Teaching Readiness

Predictor	B	SE B	β	t	p value
-----------	---	------	---------	---	---------

Constant	1.30	0.20	—	6.50	< .001
Agentic AI Usage	0.67	0.05	.68	12.30	< .001

Tables 8 and 9 show that agentic AI use is a significant predictor of teaching readiness among student teachers ($F(1, 178) = 151.42, p < .001$). Therefore, H04 was rejected. The R^2 value of .46 indicates that agentic AI usage explained 46% of the variance in teaching readiness. This is a substantial predictive contribution.

The regression coefficient showed that agentic AI usage had a significant positive effect on teaching readiness ($\beta = .68, t = 12.30, p < .001$). This means that student teachers with higher levels of agentic AI use were more likely to report greater teaching readiness. The unstandardised regression coefficient ($B = 0.67$) indicates that for every one-unit increase in agentic AI usage, teaching readiness increased by 0.67 units.

This result matters because it shows that agentic AI is not only associated with teaching readiness but also a significant predictor. The finding supports the argument that AI-based support systems can assist learners through guidance, feedback, and personalised support (Kuhail et al., 2023; Zawacki-Richter et al., 2019). In the context of teacher education, the result suggests that agentic AI may strengthen lesson planning, reflective thinking, pedagogical organisation, and classroom confidence. However, interpret the result with caution because survey-based regression indicates prediction rather than experimental causation.

H05: There is no significant difference in teaching readiness among low-, moderate-, and high-agentic AI user groups.

Table 10: Teaching Readiness across Agentic AI User Groups

Agentic AI User Group	N	Mean	SD
Low AI Users	46	3.31	0.56
Moderate AI Users	84	3.78	0.53
High AI Users	50	4.25	0.51

Table 11: One-Way ANOVA for Teaching Readiness across Agentic AI User Groups

Source of Variation	Sum of Squares	df	Mean Square	F	p value
Between Groups	18.96	2	9.48	34.86	< .001
Within Groups	48.14	177	0.27		
Total	67.10	179			

Table 11 shows a significant difference in teaching readiness among low-, moderate-, and high-agentic AI user groups, $F(2, 177) = 34.86, p < .001$. Therefore, H05 was rejected. The post hoc comparison indicated that high AI users scored significantly higher than moderate and low AI users. Moderate AI users also scored higher than low AI users.

This confirms that the two different levels of usage of agentic AI is linked to the difference in readiness to teach. Higher users plan their internship tasks well, have lessons prepared on hand, and keep reflective logs regularly compared to lower users. Higher users also feel confident teaching their students in the classroom and organising teaching materials. (p.2, col.2, para 3)

Tondeur *et al.* (2012) found that technology can be optimally integrated into teacher education by involving pre-service teachers in design and practice, and, in this respect, the results of this study fully support their findings. The study also supports Mishra and Koehler's (2006) study, which suggested that meaningful use of technology contributes to teaching as long as it is linked to pedagogical and content decisions. Clearly, the higher-agentic AI users seemed to benefit because they used AI not primarily as an information source but as a tool for planning, reflection, and mentoring.

V. DISCUSSION

The findings provided empirical support for agentic AI as a digital mentor for student teachers. The results showed that student teachers had moderately high levels of agentic AI use, internship management readiness, and teaching readiness. More importantly, factor analysis showed that agentic AI use correlated with internship management readiness and teaching readiness, and was a significant predictor of teaching readiness when users were classified as low or high.

The first major finding states that agentic AI supports internship management. Teaching interns need to take on multiple interdependent tasks, such as lesson planning, preparing teaching aids, bookkeeping, writing reflections, discharging class duties, and handling mentor feedback. The positive correlation between agentic AI use and internship management readiness suggests that AI may support planning and monitoring for these tasks. Student teachers would therefore be better able to manage them more systematically, in accordance with Zimmerman's self-regulated learning theory, since planning/monitoring and reflection contribute to successful learning and performance (2002).

The second insight is that agentic AI can support teaching readiness. Teaching readiness does not only entail completing internship records. It involves pedagogical clarity and classroom confidence, lesson organisation, the use of teaching-learning materials, learner-centric strategies, and assessment planning. The relationship between agentic AI use and teaching readiness suggests that this form of AI may translate teaching ideas into concrete classroom actions among student teachers. This aligns with the theoretical position of TPACK, in which technology assumes educational significance only when used alongside pedagogy and content (Mishra & Koehler, 2006).

Thirdly, internship management readiness is strongly correlated with teaching readiness, meaning the correlation between the two variables was maximum among the mentioned correlations ($r = .71$). Student teachers who organize lesson plans, keep record of their internship, prepare TLMs and analyze feedback are likely to be classroom-ready, meaning that the way in which the internship has been managed and the teacher prepares and reflects are responsible for making them classroom ready. Internships, as situated professional learning experiences, involve planning, action, feedback analysis, and reflection (Korthagen, 2010; Schön, 1983).

The final takeaway is that it is predictive. Agentic use of AI explains 46% of the variance in teaching readiness. This finding is useful because it shows that AI use is relevant to teacher training. This finding does not mean AI replaces the teacher educator or the school mentor; it should be used alongside them. This layer of digital assistance is available throughout, with professional skills and judgment, classroom sensitivities, and pedagogical finesse and discretion remaining with the student and mentor.

Finally, the results suggest group differences in student scores by level of AI use. Those who used high levels of AI had higher scores than students who used moderate or low levels, suggesting that useful, extensive engagement with agentic AI could support better organisation for pedagogical reasons. In addition, this result seems consistent with the literature on chatbots used in education, since conversational support tools powered by agentic AI can promote students' engagement in learning activities and provide advice and academic support (Kuhail *et al.*, 2023; Okonkwo & Ade-Ibijola, 2021). Agentic AI seems to serve as a conversation-friendly digital mentor to scaffold learners' abilities for future careers as practitioners, especially in planning, reflection, and readiness.

Cautious discussion is needed too. AI support may improve readiness only if used responsibly. When student-teachers resort to AI without critical thinking, superficial lesson planning, weak originality and poorer professional judgement may result. Thus,

agentic AI should be introduced to teacher education with structured guidelines and ethical guidance, mentor supervision and reflective verification.

V. MAJOR FINDINGS

1. Student teachers reported a moderately high level of agentic AI usage.
2. Student teachers showed a moderately high level of internship management readiness.
3. Student teachers showed a moderately high level of teaching readiness.
4. Agentic AI usage had a significant positive relationship with internship management readiness.
5. Agentic AI usage had a significant positive relationship with teaching readiness.
6. Internship management readiness had a strong positive relationship with teaching readiness.
7. Agentic AI usage significantly predicted teaching readiness and explained 46% of its variance.
8. Teaching readiness differed significantly across low, moderate, and high agentic AI user groups.
9. High agentic AI users showed better teaching readiness than moderate and low AI users.
10. Agentic AI can function as a digital mentoring support system for internship task management, reflective practice, pedagogical planning, and teaching readiness.

VI. EDUCATIONAL IMPLICATIONS

- First, teacher education institutions should integrate agentic AI-based mentoring support into pre-internship and internship programmes. Student teachers may be trained to use AI for planning lessons, preparing teaching-learning materials, developing assessment questions, organising internship tasks, and writing reflective diaries.
- Second, AI literacy should be integrated into teacher preparation. Student teachers must learn not only how to use AI tools but also how to evaluate AI-generated content, avoid overdependence, maintain academic integrity, and adapt AI suggestions to classroom realities.
- Third, teacher educators should guide student teachers in using agentic AI within pedagogical frameworks such as TPACK. AI should be used to strengthen teaching decisions, not to replace professional thinking.
- Fourth, internship supervision can include AI-supported reflection. Student teachers may use AI-generated reflective prompts and then discuss their reflections with mentor teachers or teacher educators.
- Fifth, teacher education institutions can develop a structured digital internship management system in which agentic AI supports task reminders, lesson-planning templates, feedback organisation, and progress tracking.
- Sixth, policy-level teacher education reforms may consider AI-supported mentoring as a supplementary means to strengthen internship quality, especially in institutions where regular one-to-one mentoring time is limited.

VII. SUGGESTIONS FOR FURTHER RESEARCH

1. Experimental study on the effectiveness of agentic AI-based mentoring on internship performance.
2. Development and validation of an Agentic AI Readiness Scale for student teachers.
3. Comparative study of AI usage among B.Ed., ITEP, and M.Ed. student teachers.
4. Qualitative study on student teachers' lived experiences of using AI during internship.
5. Study on ethical concerns and academic integrity in AI-assisted lesson planning.
6. Investigation of mentor teachers' perceptions of agentic AI-supported internship.

7. Development of an AI-based internship management framework for teacher education institutions.
8. Longitudinal study on the effect of AI-supported internship on early career teaching performance.

VIII. LIMITATIONS OF THE STUDY

This study drew data from 180 student teachers. Self-report scales may introduce response biases. Because the study utilised a quantitative survey design, we cannot infer causality. We might be able to predict the outcome using regression analysis, but to draw causal conclusions, we would need an experimental design to assess the effect of agentic use of AI on teaching readiness. This study examines internship management and teaching readiness, but not how these factors would influence teaching performance in actual classes. Future studies could use mixed methods, observation schedules, mentor-teacher ratings, and quasi-experimental or experimental designs.

IX. CONCLUSION

This study concluded that student teachers during their internships found agentic artificial intelligence an effective digital mentor. The study found that using agentic artificial intelligence is associated with preparation for internship administration and readiness for teaching. Using agentic artificial intelligence also predicted a student teacher's readiness to teach and accounted for 46% of the variability in that construct. Student teachers who used agentic AI more extensively planned their internships more effectively, prepared their classes more promptly, improved their reflective records, felt more confident during teaching, and improved their pedagogical organisation.

The findings indicate that agentic AI can support students not only in academic and teaching tasks but also in reflective tasks related to internships. Agentic AI is an aid not meant to be, nor to attempt to become, an educator or mentor teacher, but a closely monitored, ethically sound, and pedagogically trained form of digital mentorship assistance. The findings show how carefully curated smart mentoring could strengthen internship readiness, improve reflective skills, develop teaching plans, and prepare future teachers to teach from a professional-competence perspective.

Based on the works actually cited in your manuscript—particularly Kasneci et al., Zawacki-Richter et al., Kuhail et al., Okonkwo and Ade-Ibijola, Mishra and Koehler, Korthagen, Shulman, Zimmerman, Tondeur et al., and Darling-Hammond—I verified the DOI details against publisher or authoritative bibliographic records.

REFERENCES

1. Darling-Hammond, L. (2006). Constructing 21st-century teacher education. *Journal of Teacher Education*, 57(3), 300–314. <https://doi.org/10.1177/0022487105285962> (Sage Journals)
2. Kasneci, E., Seßler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., Gasser, U., Groh, G., Günnemann, S., Hüllermeier, E., Krusche, S., Kutyniok, G., Michaeli, T., Nerdel, C., Pfeffer, J., Poquet, O., Sailer, M., Schmidt, A., Seidel, T., . . . Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and Individual Differences*, 103, 102274. <https://doi.org/10.1016/j.lindif.2023.102274> (DOI)
3. Koehler, M. J., & Mishra, P. (2005). What happens when teachers design educational technology? The development of technological pedagogical content knowledge. *Journal of Educational Computing Research*, 32(2), 131–152. <https://doi.org/10.2190/0EW7-01WB-BKHL-QDYV> (DOI)
4. Korthagen, F. A. J. (2010). Situated learning theory and the pedagogy of teacher education: Towards an integrative view of teacher behavior and teacher learning. *Teaching and Teacher Education*, 26(1), 98–106. <https://doi.org/10.1016/j.tate.2009.05.001> (Vrije Universiteit Amsterdam)
5. Kuhail, M. A., Alturki, N., Alramlawi, S., & Alhejori, K. (2023). Interacting with educational chatbots: A systematic review. *Education and Information Technologies*, 28(1), 973–1018. <https://doi.org/10.1007/s10639-022-11177-3> (Springer)



6. Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, 108(6), 1017–1054. <https://doi.org/10.1111/j.1467-9620.2006.00684.x> (DOI)
7. Okonkwo, C. W., & Ade-Ibijola, A. (2021). Chatbots applications in education: A systematic review. *Computers and Education: Artificial Intelligence*, 2, 100033. <https://doi.org/10.1016/j.caeai.2021.100033> (ScienceDirect)
8. Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. Basic Books. (milwaukee.countycat.mcfls.org)
9. Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, 15(2), 4–14. <https://doi.org/10.3102/0013189X015002004> (DOI)
10. Tondeur, J., van Braak, J., Sang, G., Voogt, J., Fisser, P., & Ottenbreit-Leftwich, A. (2012). Preparing pre-service teachers to integrate technology in education: A synthesis of qualitative evidence. *Computers & Education*, 59(1), 134–144. <https://doi.org/10.1016/j.compedu.2011.10.009> (ScienceDirect)
11. Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education—Where are the educators? *International Journal of Educational Technology in Higher Education*, 16, Article 39. <https://doi.org/10.1186/s41239-019-0171-0> (DOI)
12. Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. *Theory Into Practice*, 41(2), 64–70. https://doi.org/10.1207/S15430421TIP4102_2 (Taylor & Francis Online)