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Correlates of Pre-Service Teachers' Performance in their Teaching Internship

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ABSTRACT

Pre-service teaching internship is a critical activity in preparing prospective teachers through actual classroom exposure. This research examined the correlates of the performance of pre-service teachers during their teaching internship, specifically parental support and school support. The study utilized a descriptive-correlational research design and was conducted among 115 pre-service teachers from a university in Ozamiz City, who were chosen through purposive sampling. The data were gathered through validated questionnaires and student internship performance ratings. Statistical methods like mean, standard deviation, frequency, percentage, Pearson product-moment correlation, and multiple regression analysis were employed to examine the data. Results indicated that both parental and school support were given very high ratings by the respondents. Parental support, however, did not have any significant correlation with teaching performance. In contrast, school support, emotional and psychological well-being, technology integration, and time management, were positively and significantly correlated with internship performance. Among these, emotional and psychological well-being was the strongest predictor. The research concludes that school support is more important than parental support in teaching internship interns' classroom preparedness and teaching effectiveness while on internships.

Keywords: academic achievement, emotional well-being, integration of technology, parental support, pre-service teachers, school support, teaching internship, time management

I. INTRODUKSYON

*P*re-service teaching, or the teaching internship, is a part of teacher education programs where prospective teachers will be able to engage in direct hands-on experience with real classroom settings (Sanusi et al., 2024). This phase allows pre-service teachers to use their knowledge in pedagogies, formulate instructional plans, and spend time with students under the mentorship of veteran teachers (Ayanwale et al., 2024). The internship serves as a bridge between academic preparation and professional practice, ensuring that prospective teachers acquire the necessary skills and experience before entering the teaching profession (Zhang et al., 2023). However, while it provides a rigorous learning experience, it does not protect pre-service teachers from the innumerable challenges that they would face when they find themselves teaching full-time (Karataş & Yüce, 2024).

Despite its importance, the teaching internship experience is facing many problems from the pre-service teachers. Lack of mentorship and institutional support given may also pose a difficulty for the pre-service

teachers to successfully transition to the classroom. Many are not equipped for uneventful classroom circumstances because they experience poor exposure to realistic scenarios of real teaching in classrooms within their classes (Karataş & Yüce, 2024). It will require effective mentorship to steer the pre-service teachers through the internship, although variations in mentoring styles and support availability create other challenges (Ansari et al., 2024). Since interns cannot enhance their instructional methods and classroom management when mentors are unavailable or do not give them positive feedback, variations in mentoring styles and the availability of support present other challenges.

The second major challenge would be time management, whereby the pre-service teacher must weigh lesson planning, grading, and professional development against the demands of the internship. The workload results in burnout and stress that negatively impact performance and learning outcomes (Pokrivcakova, 2024). Furthermore, the pressure of ensuring curriculum compliance while trying to perfect teaching styles can be a heavy burden for interns, thereby exacerbating the challenges of time management (Flavian & Levin, 2023).

Technology and AI integration presents both benefits and challenges for preservice teachers, as AI-designed tools can facilitate lesson planning, grading, scoring, and personalized feedback, thereby freeing teachers from administrative tasks (Sanusi et al., 2024). But lack of proper training on the use of AI-based education tools renders most pre-service teachers unsure of how to effectively integrate the technologies into their teaching practices (Zhang et al., 2023). AI can amplify student engagement and provide differentiated instruction, but fear about ethical considerations, accuracy, and overreliance on automated systems persists (Pokrivcakova, 2024).

Emotional and psychological pressure also has a role to play in the problems of pre-service teachers. Pressure to perform, approval-seeking from mentor teachers, and institutional pressures can create anxiety and self-doubt (Pokrivcakova, 2024). Most interns suffer from imposter syndrome, believing they lack competency or qualification despite training and preparation (Zhang et al., 2023). The emotional load of teaching and the difficulty of getting accustomed to a new professional context make mental health a critical area to be addressed in teacher preparation programs (Flavian & Levin, 2023).

This study investigates the concerns of student teachers in their teaching internship. The scope includes parental support, time management, emotional and psychological well-being, and technology and AI integration into teaching. Awareness of such issues is vital in ensuring teacher education programs are adequate in the preparation and training of teachers. The solution to these issues will ensure that future teachers are adequately prepared to deal with the realities of real teaching environments.

Several studies have examined the difficulties encountered by pre-service teachers during their internship in teaching, including mentorship, time management, emotional health, and integration of technology. Karataş and Yüce (2024) highlight that poor mentorship and insufficient exposure to authentic classroom settings make it difficult for interns to develop professionally, and hence, transitioning into full-time teaching is made challenging. In the same way, Pokrivcakova (2024) explains how intense workloads and pressures to be curriculum compliant result in stress and burnout in pre-service teachers, which ultimately impacts their general performance. AI integration in education is both promising and challenging since Zhang et al. (2023) argue that while AI tools can facilitate lesson planning and evaluation, few pre-service teachers have the proper training to do so. Additionally, psychological and emotional stressors such as imposter syndrome and seeking approval add to the complexity of the internship experience (Flavian & Levin, 2023). These findings highlight the necessity for increased mentorship, organized support systems,

and mental health considerations in order to better strengthen teacher education programs and prepare future teachers more effectively.

The researcher identified a methodological gap in the prior research. There is a lack of quantitative research designs in recent studies. Based on the research, we are trying to implement as a research design. We found a dearth in prior research on correlational designs with greater validity. We aim to broaden the scope of our research by bridging the gaps with innovative approaches to research methodologies, utilizing a systematic framework (Miles, 2017).

While there is growing interest in pre-service teacher difficulties, the majority of current research utilizes qualitative approaches, and there is a need for quantitative research that demonstrates statistical associations between these difficulties and teaching quality. Research conducted by Almazroa (2020) and Dube (2020) revealed important difficulties like poor mentorship, classroom management issues, and lesson planning problems, but mostly employed thematic analysis instead of correlational or experimental designs. Likewise, Borja et al. (2019) and Baltazar et al. (2019) investigated instructional delivery problems but didn't use quantitative validation techniques. Although Yusuf, et al. (2022) conducted a quantitative investigation into the effectiveness of teaching practice, their study did not specifically examine the statistical impact of different challenges on pre-service teacher performance. The absence of correlational analyses with high validity measures constrains generalizability and the implementation of specific interventions. This study attempts to narrow this gap by using a systematic quantitative method to evaluate the connection between main challenges—such as mentorship quality, time management, and emotional well-being—and their effects on teaching preparedness, thereby informing an evidence-based enhancement of teacher education programs.

Hence, this study will explore the challenges that pre-service teachers encounter in their teaching internships, particularly in the areas of parental support, time management, emotional and psychological well-being, and integration of AI technology. The main objective is to investigate the extent to which these problems affect classroom readiness and lesson effectiveness, using a quantitative approach. By determining statistical correlations between these challenges and instructional performance, this study attempts to establish empirical evidence that can be used to inform the development of enhanced teacher education programs. The study also aims to contribute to the creation of specific interventions that can be used to improve the overall internship experience, preparing future teachers to better adapt to full-time teaching.

Moreover, this study highlights ways in which teacher training programs can be enhanced to ensure a smooth transition for pre-service teachers from internships to full-time teaching. It should make the educational system more responsive, effective, and technology-friendly so that it can give a better experience both to teachers and students. The result of this study will also help the pre-service teachers create a more effective and supportive environment for future educators, leading to better outcomes for both teachers and students.

II. Statement of the Problem

The study will determine the correlates of pre-service teachers on their teaching performance. It was conducted in Misamis University, Ozamiz City, College of Education. Specifically, it sought answers to the following research questions:

1. What is the level of parental support in terms of encouragement, financial assistance, and academic guidance?

2. What is the level of school support in terms of time management, technology integration, and emotional and psychological well-being?
3. What is the level of teaching performance of pre-service teachers in their teaching internship
4. Is there a significant relationship between parental support and the performance of pre-service teachers?
5. Is there a significant relationship between school support and the performance of pre-service teachers?

III. METHODOLOGY

This quantitative study approach used a descriptive correlational design. This design enabled the research to explore deeply the issues pre-service teachers experienced while carrying out their teaching internship without manipulation (Siedlecki, 2020). The correlational design enabled researchers to analyze and forecast the correlation of variables, including parents' and mentors' support, time management, emotional and psychological wellbeing, use of technology, and AI integration (Seeram, 2019). This design was suitable for the study as it seeks to capture how these variables influence the teaching internship experience.

The research was conducted in a selected tertiary school institution in Ozamiz City, more particularly at the College of Education. The university is known for its academic excellence. It has been given "Autonomous Status" by the Commission on Higher Education (CHED), considering its high levels of teacher education and training standards. The College of Education also has different undergraduate courses designed to prepare prospective educators for different environments in teaching. Such courses encompass Elementary Education, Secondary Education with specializations in areas like English, Mathematics, Science, and Social Studies. The college prepares future teachers with theoretical insights and practical experience through its pre-service teacher training programs by placing them in actual classroom environments. The institution's partnership with local schools enables pre-service teachers to develop their instructional methods, classroom management, and pedagogical approaches under the guidance of veteran educators. With its strong focus on teacher preparation, this environment offers a perfect place to study the issues faced by pre-service teachers during their internships and evaluate the efficacy of support systems that promote their teaching ability.

IV. RESULTS AND DISCUSSION

Level of Parental Support

Table 1 shows the extent of parental support among 115 participants in terms of encouragement, financial help, and study guidance. Overall, the results show that students reported a very high extent of parental support for all three constructs. Among the three dimensions, encouragement was scored the highest on the mean score (M = 3.80, SD = 0.442), seconded by academic guidance (M = 3.74, SD = 0.373), and followed by financial support (M = 3.66, SD = 0.362). All the scores are in the "Very High Support" category, as measured by the scale used in the study.

The most rated parental support factor was encouragement, which suggests that parents bear a significant responsibility to psychologically and emotionally stimulate their children. This can be in the form of repeated verbal stimulation, acknowledgment of achievements, and emotional availability, which are basic in sustaining the academic motivation and self-esteem of students. Academic advising was second on the list, referring to parents actively participating in the learning process of the children, e.g., enabling academic decisions or monitoring progress. Last but not least, economic support, even if also highly rated,

received the lowest mean score among the three. This could reflect some inconsistency or insufficiency of economic assistance provided by parents and may depend on economic matters.

Current research continues to highlight the strong influence of parental support for learning. Strong levels of emotional and motivational parental support correlate with more resilient students and academic motivation (Chen & Mok, 2023). Parental support in communication and encouragement plays a notable role in shaping students' academic identity (Fang Chen et al., 2024). Parental instruction in learning is also linked with increased academic self-efficacy, especially in students pursuing secondary and tertiary levels of education (Peng et al., 2023).

Parental academic and economic support is also a significant predictor of students' accomplishment at the university level. When parents are involved in academic and economic planning, students show better academic regulation and reduced rates of school dropout (Yang et al., 2023). Moral support and academic guidance at home serve as buffers against academic stress (Ramlan & Ahmad, 2023). While financial assistance is paramount, students are more likely to benefit from frequent encouragement and guidance towards future academic achievement (Fang Chen et al., 2024).

The findings have several important implications for parents, school counselors, and school administrators. Parent involvement programs that promote affective support and academic reinforcement in the home setting would benefit from being included by school staff. Workshops or presentations on effective methods for parents to assist and motivate their children academically could be conducted by counselors. Moreover, the relatively low ranking in financial assistance areas indicates the need for additional broader financial aid programs or coordination with the private sector and local government funding to assist economically constrained families. Plugging these gaps ensures that all aspects of parental support are addressed equally, thereby maximizing students' academic performance.

Table 1
Level of parental support in terms of encouragement, financial assistance, and academic guidance (n=115)

Constructs	Mean	SD	Remarks
Encouragement	3 .80	0.442	Very High Support
Financial Assistance	3.66	0.362	Very High Support
Academic Guidance	3.74	0.373	Very High Support

Note: 1.75-1.00 – Low Support; 2.50- 1.76- Moderate Support; 3.25-2.51- High Support; 4.00-3.26- Very High Support

Level of School Support

Table 2 shows the extent of school support among 115 participants in time management, the integration of technology, and emotional and psychological well-being. Generally, results indicate that the students indicated a very high level of school support on all three measures. Of these, technology integration was highest (M = 3.77, SD = 0.309), followed very closely by emotional and psychological well-being (M = 3.76, SD = 0.383) and time management (M = 3.74, SD = 0.325). All of these are in the "Very High" support category, as evidenced by the rating scale employed in the study.

Technology integration as the first school support category suggests that students strongly appreciate the capability of the school to offer current digital learning materials, internet learning environments, and e-learning platforms to facilitate their learning. Emotional and psychological well-being as the second ranking suggests that students are being assisted with emotional resilience along with mind wellness, perhaps through accessibility of counsellors, mental wellness activities, and safe learning environments. Time management, while still most highly valued of the three, was the least. That could perhaps translate to the fact that students do value tools and plans on time management offered by the school but there is barely even a small margin of opportunity for yet more attempts to assist them in keeping current with their studies and calendars.

School support systems are the most influential determinants of academic success. Classroom application of digital technology enhances learner motivation and performance, particularly when accompanied by teacher support (Carmona-Halty et al., 2024). Institutional technology support anchors learning achievement through greater access to learning materials (Yang et al., 2023). Supportive online learning spaces, particularly in blended learning situations, increase motivation and persistence among university students (Ramlan & Ahmad, 2023).

Emotional and psychological support is more described as of similar value. Emotional support schools enhance the academic motivation and resilience of students (Guamanga et al., 2024). Systematic time management training if done by schools has a very significant effect on the organizational skill of students and reduces procrastination (Carmona-Halty et al., 2024). Psychological wellbeing interventions lead to measurably enhanced academic performance among students, confirming the worth of mental health in schools (Fang Chen et al., 2024).

The implications of these findings for school administrators, teachers, and mental health professionals are significant. The high rating of technology integration should motivate the institutions to keep investing in digital infrastructure and to keep providing students and staff training in its effective use. The high rating of emotional and psychological support means that the efforts of current well-being are paying off and should be sustained to even greater heights. But the slightly lower support rating for time management indicates the need for targeted interventions—such as time management workshops, individual academic advising, or calendar-based planning materials—to assist students in managing their workload more effectively. By targeting these, there can be a more balanced, responsive, and holistic support system operating within the school environment.

Table 2 Level of school support in terms of time management, technology integration, and emotional and psychological well-being
(n=115)

Constructs	Mean	SD	Remarks
Time Management	3.74	0.325	Very High
Technology Integration	3.77	0.309	Very High
Emotional and Psychological Well-being	3.76	0.383	Very High

Note: 1.75-1.00 – Needs Improvement; 2.50-1.76 – Moderate; 3.25-2.51 – High; 4.00-3.26 – Very High

Teaching Performance of Pre-Service Teachers in Their Teaching Internship

Table 3 shows the teaching performance level of pre-service teachers during their teaching internship, based on 114 respondents. The general finding indicates that most of the pre-service teachers showed an Outstanding level of performance (n = 96, 84.21%), followed by those who were rated as Very Satisfactory (n = 16, 14.04%). A very small number were rated Satisfactory (n = 2, 1.75%). Most significantly, none of the respondents scored in the Fair, Unsatisfactory, or Failed categories. The overall mean score (M = 96.0) equates to an Outstanding level of performance.

The vast majority of pre-service teachers who achieved an Outstanding rating demonstrate a high level of teaching competencies during their internships. This suggests that teacher preparation programs have been effective in equipping students with the pedagogical content knowledge, classroom management, and professional dispositions that are required in real classrooms. Having fewer Very Satisfactory (14.04%) and Satisfactory (1.75%) ratings may indicate minimal differences in experience, preparation, or classrooms, but a lack of low-performing ratings is an aspect of consistency in programs.

Pre-service teacher performance is strongly influenced by institutional support and training quality. Pre-service teacher training programs emphasizing classroom management and simulated real-world experiences train more competent student-teachers (Carmona-Halty et al., 2024). Pre-service teachers trained via mentorship programs show greater classroom confidence and pedagogical competence (Guamanga et al., 2024). Practical application through internships increases adaptability and delivery of teaching (Peng et al., 2023).

Performance assessments also look back at the pre-service training program curriculum design. Existence of feedback loops and reflective practice within pre-service training is positively linked to teaching effectiveness (Yang et al., 2023). Exposure to classroom instruction at the beginning and ongoing throughout ensures readiness and buffers against transition challenges (Fang Chen et al., 2024). Institutional integration with cooperating schools plays a vital role in ensuring professional identity among pre-service teachers (Ramlan & Ahmad, 2023).

These results have significant implications for teacher education schools, cooperating schools, and field supervisors. The level of performance indicates that current curriculum planning and field placement policies are, in general, effective and do not need to be altered. Nevertheless, to ensure no student is left behind, it is recommended that early identification and intervention systems be implemented—namely at pre-internship levels—to support individuals who may require additional mentoring or practice. Collaborative schools and observation teachers must also continue to advocate for supportive environments and provide constructive feedback. This will cater to continued excellence while striking a balance of fine gaps in competency levels among the teaching interns.

Table 3

Teaching performance of pre-service teachers in their teaching internship

Performance	Frequency	Percentage
Outstanding	96	84.21
Very Satisfactory	16	14.04
Satisfactory	2	1.75
Overall Performance:	M= 96.0 - Outstanding	

Note: 95-100 (Outstanding); 89-94 (Very Satisfactory); 83-88 (Satisfactory); 78-82 (Fair); 72-77 (Unsatisfactory); 71 and below (Failed)

Relationship between Parental Support and the Performance of Pre-Service Teachers

Table 4 shows the parental support correlation and pre-service teacher performance (n = 114). Generally, the findings reveal that there was no statistically significant association between the performance of the pre-service teachers and any of the parental support variables (financial support, encouragement, and study guidance), with all p-values greater than the 0.05 level. Academic Guidance (r = 0.111, p = 0.242), Financial Assistance (r = 0.149, p = 0.118), and Encouragement (r = 0.064, p = 0.502) were the traits that reflected the most association with student achievement. All of the correlations were weak but positive and not statistically significant.

In further examining these results, although financial support had the highest correlation, the relationship strength was still insignificant, indicating that parents' financial support alone does not have a significant impact on pre-service teachers' academic performance. Likewise, academic guidance and encouragement, which are usually regarded as motivational influences, also failed to show a significant influence. This can suggest that other variables—namely, personal motivation, peer support, instruction quality, or institutional support—could be more directly involved in academic achievement than parental support in this particular sample.

Although parental support has long been regarded as imperative in learning accomplishment, its impact on the performance of pre-service teachers is seemingly less overt in current research. Pre-service teachers' intrinsic motivation and academic involvement are more controlled by internal and organizational variables rather than by parental support (Chen & Mok, 2023). While parental support enables early academic resilience, it weakens in higher learning contexts where peer and instructor support gain more prominence (Ramlan & Ahmad, 2023). Adult learners in teacher education programs are typically more reliant on self-learning strategies than parental support (Guamanga et al., 2024).

Despite that, parental support is still in the background. Students who received high academic support in their early years still exhibited better self-discipline, which played a minor role in their later teaching performance (Peng et al., 2023). Encouragement and economic assistance do not directly impact pre-service teacher grades, but they support emotional stability, which impacts performance indirectly (Fang Chen et al., 2024). Socio-economic assistance could lead to improved time and stress management among teacher education students, although the connection is tenuous (Yang et al., 2023).

These results indicate that school administrators, teacher educators, and program developers need to take into account interventions beyond parental support to enhance pre-service teacher performance. Mentoring programs, peer learning circles, and institutional financial support systems should be enhanced to complement or make up for the limited effect of parental support. Regular academic advising, financial planning workshops, and resilience training could also be introduced to assist pre-service teachers more holistically.

Table 4 Significant relationship between parental support and the performance of pre-service teachers (n=115)

Variables	r	p	Remarks
Encouragement	0.064	0.502	Not significant
Financial Assistance	0.149	0.118	Not significant
Academic Guidance	0.111	0.242	Not significant

*Notes: *** p < .001 (Highly Significant);**p<0.01 (Highly Significant); *p<0.05 (Significant); p>0.05 (Not significant)*

Relationship between School Support and the Performance of Pre-Service Teachers

The findings show that there is a strong relationship between school support and the performance of pre-service teachers. All three variables—Time Management ($r = 0.191$, $p = 0.044$), Technology Integration ($r = 0.208$, $p = 0.028$), and Emotional and Psychological Wellbeing ($r = 0.268$, $p = 0.004$)—exhibit statistically significant positive correlations with performance; the highest correlation was in Emotional and Psychological Wellbeing ($r = 0.268$, $p = 0.004$), then Technology Integration ($r = 0.208$, $p = 0.028$), and lastly, Time Management ($r = 0.191$, $p = 0.044$). All three measures were statistically significant, showing significant contributions of such school support to pre-service teacher performance ($n = 114$).

Positive correlation means that as one variable increases, the other variable also increases. Positive correlations here imply that pre-service teachers' scholarly or teaching performance has positive correlations with greater school support in emotional wellbeing, assistance in time management, and the integration of technology. Enhancing such forms of support is most likely to enhance pre-service teachers' outcomes, given that the strength in each relationship is not consistent.

A closer look at the findings suggests that, out of the support variables, emotional and psychological wellbeing has the most significant impact on academic performance. This aligns with the idea that pre-service teachers are better able to function effectively in academic and actual teaching activities when they are emotionally supported and cognitively well. Due to its relevance in today's learning environments, technology integration is also essential for enhancing performance, possibly through increased participation and resource availability. Even where there is minimal correlation, time management significantly contributes to performance, which could be an indication of the value of scheduling, prioritizing tasks, and managing academic responsibilities efficiently.

Previous studies clearly set the linkage between school support and enhanced pre-service teacher scholarly and practical performance. Systematized school support example, technology-mediated instruction, and instructor mentoring are significantly linked to enhanced teaching performance outcomes (Carmona-Halty et al., 2024). Psychosocial and emotional support frameworks matter in preparing student teachers to manage classroom stress properly (Guamanga et al., 2024). Supportive academic settings enhance knowledge uptake and student teacher happiness (Ramlan & Ahmad, 2023).

In addition, technology integration and time management are emerging as major pillars of institutional support. Time management interventions show a strong correlation with lower burnout and higher performance in teacher trainees (Chen & Mok, 2023). Digital tools and e-learning infrastructure improve instructional planning and practice teaching delivery (Yang et al., 2023). Emotional wellbeing and emotional intelligence developed through school programs enhance flexibility and teacher confidence (Peng et al., 2023).

These findings it is essential that pre-service teachers' mental and emotional health remain the top priority of faculty members and educational institutions. Counseling sessions on a regular basis, mindfulness practices, and peer support groups must be conducted in schools. For fostering creativity in education, it is just as important to make technology accessible and offer pedagogical training on its use. To help pre-service teachers manage their workload more effectively, time management training, academic mentoring, and the use of planners or scheduling software must be provided. Enhancing academic achievement and preparing students for the teaching profession can be the outcome of addressing these issues.

Table 5
Significant relationship between school support and the performance of pre-service teachers

Variables		Performance of pre-service teachers
Time Management	*r*	0.191*
	p	0.044
Technology Integration	*r*	0.208*
	p	0.028
Emotional and Psychological well-being	*r*	0.268**
	p	0.004

Notes: *** p < .001 (Highly Significant);**p<0.01 (Highly Significant); *p<0.05 (Significant); p>0.05 (Not significant)

V. CONCLUSION

Based on the findings, the following conclusion were made:

1. The findings affirm that pre-service teachers are highly supported by parents, especially in terms of encouragement and educational guidance, although such support does not influence their teaching performance.
2. School support was extremely vital to the teaching performance of pre-service teachers, since emotional and psychological wellbeing, use of technology, and time management have significant positive correlations with performance.
3. Overall teaching performance among pre-service teachers was exceptional, which confirms that the existing teacher training and internship programs are highly effective.
4. From among the school support variables, emotional and psychological wellbeing plays the highest level of influence on performance, which confirms that mental health support in teacher education is a key aspect.
5. The results accentuate that support systems within institutions matter more than parental support in ascertaining teaching achievement during the internship phase.

REFERENCES

1. Al-Rashaida, M., & Massouti, A. (2024). Assessing the efficacy of online teacher training programs in preparing pre service teachers to support students with special educational needs in mainstream classrooms in the UAE: A case study. Journal of Research in Special Educational Needs, 24(1), 188–200. https://doi.org/10.1177/00224871231200279
2. Ansari, A. N., Ahmad, S., & Bhutta, S. M. (2024). Mapping the global evidence around the use of ChatGPT in higher education: A systematic scoping review. Education and Information Technologies, 29(9), 11281–11321. https://doi.org/10.1007/s10639-023-12223-4
3. Ayanwale, M. A., Adelana, O. P., Molefi, R. R., Adeeko, O., & Ishola, A. M. (2024). Examining artificial intelligence literacy among pre-service teachers for future classrooms. Computers and Education Open, 6, 100179. https://doi.org/10.1016/j.caeo.2024.100179
4. Brillo, B., Garcia, P., & Chua, L. (2024). Emotional intelligence, time management, and perceive stress among students. International Journal of Applied and Positive Psychology Research, 3(1), 64–79. https://actonlineedu.org/2024/05/04/ijaapr-v3i1-202306064/

5. Cardon, P., Fleischmann, C., Aritz, J., Logemann, M., & Heidewald, J. (2023). The challenges and opportunities of AI-assisted writing: Developing AI literacy for the AI age. Business and Professional Communication Quarterly, 86(3), 257–295. https://doi.org/10.1177/23294906231176517
6. Carmona-Halty, M., Marquez, C. J., & Salanova, M. (2024). Digital Learning Integration and Student Engagement. Frontiers in Psychology, 15, 1419045. https://www.frontiersin.org/articles/10.3389/fpsyg.2024.1419045/full
7. Chen, L., & Mok, M. (2023). Understanding the Link Between Parental Support and Student Resilience. Frontiers in Psychology, 14, 1248602. https://www.frontiersin.org/articles/10.3389/fpsyg.2023.1248602/full
8. Creswell, J. W. (2023). Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.). SAGE Publications. da Silva, C., Pereira, F., & Amorim, J. P. (2024). The integration of indigenous knowledge in school: a systematic review. Compare, 54(7), 1210–1228. https://doi.org/10.1080/03057925.2023.2184200
9. Darling-Hammond, L. (2024). Powerful teacher education: Lessons from exemplary programs.Jossey-Bass.
10. Delello, J., McWhorter, R. R., & Marmion, S. (2024). The impact of AI-driven tools on teacherworkload and stress levels. Education Sciences, 15(2), 113. https://www.mdpi.com/2227-7102/15/2/113
11. Dimitriadou, C. (2023). The role of AI in smart classrooms: Enhancing student engagement and behavior monitoring. Smart Learning Environments, 10(1), 23–45. https://slejournal.springeropen.com/articles/10.1186/s40561-023-00231-3
12. Esman, E. N., Bual, J. M., & Madrigal, D. V. (2023). Twenty-first-century teaching skills and job satisfaction of public senior high school teachers in Central Philippines. Asian Journal of Advanced Research and Reports, 17(7), 46–62. https://doi.org/10.9734/ajarr/2023/v17i7493
13. Fang Chen, Y., Zhang, H., & Liu, X. (2024). Academic Identity and Psychological Well-Being in Students with Parental Involvement. Behavioral Sciences, 14(8), 687. https://www.mdpi.com/2076-328X/14/8/687
14. Flavian, H., & Levin, O. (2023). Using simulation-based learning to inform preservice teachers' professional development. Teaching Education, 35(2), 145–161 https://doi.org/10.1080/10476210.2023.2240716
15. Guamanga, J. C., Labitag, L. C., & Romero, R. D. (2024). Emotional and Psychological Support in Teacher Education. Frontiers in Education, 9, 1423441. https://www.frontiersin.org/articles/10.3389/feduc.2024.1423441/full
16. Halid, L. I. (2024). Constructivist Approach to Language Learning: Linking Piaget's Theory to Modern Educational Practice. INTERACTION, 11(2), 306–327. https://doi.org/10.36232/interactionjournal.v11i2.33
17. Jere, S., & Mpeta, M. (2024). Evaluation of Pre-service Teachers' Digital Competence in Limpopo Province, South Africa. e-BANGI Journal, 21(1). https://doi.org/10.17576/ebangi.2024.2101.27
18. Karan, S., & Angadi, R. (2023). AI in education: Challenges and implications for teacher-student interaction. Education Sciences, 15(2), 113. https://www.mdpi.com/2227-7102/15/2/113
19. Karataş, F., & Yüce, E. (2024). AI and the future of teaching: Preservice teachers' reflections on the use of artificial intelligence in open and distributed learning. IRRODL, 25(3), 304–325. https://www.erudit.org/en/journals/irrodl/2024-v25-n3-irrodl09550/1113502ar/abstract/

20. Klassen, J. (2024). International organisations in vocational education and training: a literature review. Journal of Vocational Education & Training, 1–27. https://doi.org/10.1080/13636820.2024.2320895
21. Markos, A., Prentzas, J., & Sidiropoulou, M. (2024). Pre-Service Teachers' Assessment of ChatGPT's Utility in Higher Education. Electronics, 13(10), 1985. https://doi.org/10.3390/electronics13101985
22. Moorhouse, B. L., & Kohnke, L. (2024). The effects of generative AI on initial language teacher education: The perceptions of teacher educators. System, 122, 103290. https://doi.org/10.1016/j.system.2024.103290
23. Ong, Q. K. L., & Annamalai, N. (2024). Technological pedagogical content knowledge for 21st century learning skills. Educ Inf Technol, 29, 1939–1980. https://doi.org/10.1007/s10639- 023-11852-z
24. Organisation for Economic Co-operation and Development. (2023). Teaching for the future Global engagement, sustainability and digital skills. OECD Publishing. https://doi.org/10.1787/d6b3d234-en
25. Orakova, A., Nametkulova, F., Issayeva, G., et al. (2024). The relationships between pedagogical and technological competence and digital literacy. Journal of Curriculum Studies Research, 6(1), 1–21. https://doi.org/10.46303/jcsr.2024.2
26. Peng, S., Wang, H., & Zhou, Y. (2023). Parental Guidance and Academic Self-Efficacy in Adolescents. Frontiers in Psychology, 14, 10091312. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10091312/
27. Pokrivcakova, S. (2024). Pre-service teachers' attitudes towards artificial intelligence in EFL. Journal of Language and Cultural Education, 11(3), 100–114. https://doi.org/10.2478/jolace-2023-0031
28. Poulton, P., & Golledge, C. (2024). Future curriculum-makers: The role of professional experience placements. The Curriculum Journal. https://doi.org/10.1002/curj.252
29. Pu, S., Ahmad, N. A., Khambari, M. N. M., et al. (2021). Improvement of Pre-Service Teachers' Knowledge about AI. Asian Journal of University Education, 17(3), 203–219. https://doi.org/10.24191/ajue.v17i3.14499
30. Ramlan, N., & Ahmad, W. (2023). Parental Involvement, Academic Resilience, and Stress in Tertiary Students. International Journal of Academic Research in Education and Psychology, 3(2), 45–60. https://kwpublications.com/papers/detail/IJAREG/8509/
31. Ramnarain, U., Ogegbo, A. A., Penn, M., et al. (2024). Pre-service science teachers' intention to use generative AI. Journal of Science Education and Technology. https://doi.org/10.1007/s10956-024-10159-z Sanusi, I. T., Ayanwale, M. A., & Tolorunleke, A. E. (2024). Investigating pre-service teachers' AI perception. Computers and Education: Artificial Intelligence, 6, 100202. https://doi.org/10.1016/j.caeai.2024.100202
32. Saragena, N. D., Maravillas, N. C., Bual, J. M., & Ramales, J. L. M. (2024). Instructional Practices and Self-efficacy of Teachers in the Philippines. https://doi.org/10.9734/ajarr/2024/v18i11793
33. Sethi, P., & Jain, R. (2024). AI-driven social-emotional learning: Potential and challenges. Journal of Research in Innovative Teaching & Learning, 17(1), 89–102. https://www.emerald.com/insight/content/doi/10.1108/jrit-03-2024-0073/full/html
34. Su, J., Guo, K., Chen, X., & Chu, S. K. W. (2024). Teaching artificial intelligence in K–12 classrooms: a scoping review. Interactive Learning Environments, 32(9), 5207–5226. https://doi.org/10.1080/10494820.2023.2212706
35. Sun, F., Tian, P., Sun, D., Fan, Y., & Yang, Y. (2024). Pre-service teachers' inclination to integrate AI into STEM education. British Journal of Educational Technology. https://doi.org/10.1111/bjet.13469

36. Täschner, J., Dicke, T., Reinhold, S., & Holzberger, D. (2025). A Systematic Review and Meta Analysis of Intervention Studies Promoting Teacher Self-Efficacy. Review of Educational Research, 95(1), 3–52. https://doi.org/10.3102/00346543231221499
37. Tuxtayevich, K. I., Ahmatovna, P. S., et al. (2024). Different Approaches to Enhance Critical Thinking in Digital Education. SPAST Reports, 1(7). https://doi.org/10.69848/sreports.v1i7.5086
38. Wibowo, S., Wangid, M. N., & Firdaus, F. M. (2025). The relevance of Vygotsky's constructivism learning theory with differentiated learning. Journal of Education and Learning, 19(1), 431 440. https://doi.org/10.11591/edulearn.v19i1.21197
39. Yang, C., Zhang, R., & Liu, L. (2023). Parental Academic Support and University Students'Regulation and Retention. Sustainability, 15(7), 5859. https://www.mdpi.com/2071-1050/15/7/5859
40. Yang, J. (2022). Perceptions of preservice teachers on AI chatbots in English education. IJIBC, 14(1), 44–52. http://dx.doi.org/10.7236/IJIBC.2022.14.1.44
41. Zakaria, N., & Hashim, H. (2024). Shaping the future of education: Conceptualising AI integration. IJARBSS, 14(5). http://dx.doi.org/10.6007/IJARBSS/v14-i5/21584