





07-07-AESSR-5266-997

Academy of
Education and Social Sciences Review
Vol. 5 No. 1 | February, 2025 | 76 - 87
ISSN (p): 2790-8348 | ISSN (e): 2789-6781
DOI: <https://doi.org/10.5281/zenodo.14999140>



Examining the Outcomes and Challenges of the B.Ed. Program in Developing Prospective Teachers' Teaching Skills for the 21st Century: A Theoretical and Practical Perspective

  **Manzoor Ahmed**¹ (Corresponding Author)
Department of Education
University of Turbat, Turbat – Pakistan

  **Razia Fakir Mohammad (Ph.D)**²
Department of Education
Iqra University, Karachi – Pakistan

 Published online: 28 Feb 2025

 [View related articles](#) 

 [Submit your article to this journal](#) 

How to Cite:

Ahmed, M., & Mohammad, R. F. (2025). Examining the Outcomes and Challenges of the B.Ed. Program in Developing Prospective Teachers' Teaching Skills for the 21st Century: A Theoretical and Practical Perspective . *Academy of Education and Social Sciences Review*, 5(1), 76–87. <https://doi.org/10.5281/zenodo.14999140>

Publisher's Note:

International Research and Publishing Academy (iRAPA) stands neutral with regard to jurisdictional claims in the published maps and institutional affiliations.

Copyright:

©2025 | Academy of Education and Social Sciences Review published by International Research and Publishing Academy (iRAPA)



This is an Open Access article published under the Creative Commons Attribution 4.0 International (CC BY 4.0) (<https://creativecommons.org/licenses/by/4.0>)

Creative Commons Attribution (CC BY): lets others distribute and copy the article, to create extracts, abstracts, and other revised versions, adaptations or derivative works of or from an article (such as a translation), to include in a collective work (such as an anthology), to text or data mine the article, even for commercial purposes, as long as they credit the author(s), do not represent the author as endorsing their adaptation of the article, and do not modify the article in such a way as to damage the author's honour or reputation.

Abstract

This study examines the outcomes and challenges of the B.Ed. (4 years) program in developing prospective teachers' teaching skills for the 21st century. The researchers used purposive sampling techniques and selected 18 male and female university students from Makran, Balochistan, enrolled in the 8th semester. The qualitative data were collected through semi-structured interviews and analyzed through thematic analysis. The findings revealed that the theoretical aspect of the B.Ed. 4-year program plays a vital role in equipping future teachers with the necessary knowledge and skills to become effective teachers of the 21st century. However, the practical aspect of the program, such as the practicum, revealed a lack of ICT learning strategies to enhance the students' and teachers' technological competencies to understand teaching in the digital era. Moreover, the study suggested that a B.Ed. 4-year program is the essential requirement for the appointment of teachers in the teaching field, and the program should be updated with modern ICT. There should be a proper continuous professional development program for the instructors to train B.Ed. Students as an effective teacher of the 21st century.

Keywords

21st century
B. Ed 4-year program
Challenges & outcomes
Practical perspective
Teachers' teaching skills

INTRODUCTION

The world of the 21st century is known as the era of rapid innovation and development, where individuals' lives, work expectations, and communication skills are being transformed by technology and globalization. Teaching and learning in the twenty-first century require integrating, adaptation, flexibility, and creativity in the emerging global era. This leads to a secure and sustainable student success since the mission of education is to address the needs of society as they arise (Chapman & Aspin, 2013). With this theoretical underpinning, a teacher's role is to develop critical thinking, creativity, innovation, collaboration, and communication skills within themselves and their students (Aabla, 2017). Initial teacher education programs are viewed as a significant source of teacher learning or becoming a teacher to assure that all teachers are well qualified and gain the knowledge, skills, and experiences essential to meaningful student learning.

In the context of this study, the Bachelor of Education (B.Ed.) program has experienced significant modifications, including an expansion of credit hours, a revised curriculum, and the inclusion of a prolonged practicum component. These changes aim to equip student teachers with the necessary 21st-century competencies to successfully navigate the obstacles and demands of today's classrooms in their future roles as teachers. The document analysis indicates that the program provides student teachers with experiences that foster critical thinking and promote innovative teaching practices for quality education in various contexts. A formal teacher education program aims to transform learning and improve student teachers' pedagogical and content knowledge, skills, and behaviors to make their classrooms interactive and promote meaningful learning (Iqbal et al., 2022).

The transformation of education begins with teachers can be interpreted as that the teachers significantly influence students' intellectual, emotional, and moral development more than any other school or home. The significance of teachers' role is also evident through the ideal outcomes of education in the 21st century, which are defined as learners who can drive innovation, reason, and promote social equity. This implies that the best teachers prepare their students to be productive, critical, and engaged members of the society. According to the existing literature, the two most significant impediments to producing new technologies and surviving in the 21st century and beyond are innovations in pedagogical competences (Măță & Suci, 2011; Halder, 2023; Mynbayeva et al., 2018). The internet's quick adoption and rapid advancement have transformed many elements of pedagogy, from our patterns of contact to

our work option, work criteria and standards, and living styles.

The expansion of technology invites innovation in pedagogical and academic standards to the point where higher education must be watchful to offer students skills to fulfill market expectations. As a result, higher education aims to provide individuals with the knowledge, skills, values, and attitudes they need to transform their practices. Given the theoretical stance of learning in the 21st century, teacher education programs are debatable regarding their role in preparing teachers to teach learning of the digital in the innovation era. In this sense, Darling-Hammond (2017) emphasizes the need for coherent and clinically rich teacher preparation that bridges theory and practice. This sentiment is reverberated by Feiman-Nemser (2001), who highlights the necessity of intensive clinical (practicum) experiences integrated with coursework to equip teachers with practical skills. Similarly, the study by Ingersoll and Strong (2011) identified that teachers who have undergone comprehensive training are likelier to remain in the profession and contribute to student learning.

Moreover, in the context of developing countries, Mundy and Murphy (2001) state that teacher education is critical for capacity-building and improving educational quality. In Pakistan, the importance of teacher education programs is similarly noticeable. In this sense, Siddique et al., (2023) observe that teachers who have undergone formal teacher training are more likely to implement effective teaching practices and create a positive classroom environment. Additionally, Sarwar et al., (2019) found that teacher education programs enhance teachers' pedagogical content knowledge and subject matter to enable them to be effective teachers. However, the shortage of qualified teachers in Pakistan poses a significant challenge to the quality of education. Qazi et al., (2012) explored that insufficient teacher education causes a shortage of competent teachers in the field of education that compromises the learning outcomes. Regarding policy implications, the National Education Policy of Pakistan (NEP) 2021 emphasizes improving teacher quality through enhanced pre-service and in-service teacher education (Ahmad & Hussain, 2014).

National Education Policy underscores the importance of continuous professional development for teachers to keep up with evolving educational practices (Majoka & Khan, 2017). Based on the literature in both the international and Pakistani contexts has proved that teacher education programs have emerged as a crucial determinant of educational quality and students' success. Research evidence supports the need for a well-structured, integrated, and clinically-rich teacher preparation. Developing countries like Pakistan face unique challenges, and enhancing teacher education is even more imperative. Recognizing the importance of teacher education, policy initiatives taken by NEP underscore the need for continuous improvement in this domain by developing a well-structured, integrated, and clinically-rich teacher preparation programs to prepare teachers to teach in the digital era.

Moreover, to achieve the essential requirement of the 21st century, connectivism helps educators realize that in the age of the internet and innovative communication technology, we no longer need to confine our students and teachers to a single classroom, a single textbook, and a limited range of learning experiences (Siemens, 2005). In addition, according to Siemens (2004) and Downes (2012), connectivism is a relatively new learning theory in the modern era, which mentions that learners link their ideas, thoughts, theories, and general knowledge meaningfully. It acknowledges the integral role of technology in the learning process, recognizing our constant connectivity as a catalyst for shaping our learning pathways. This paradigm promotes learner agency to make informed choices about their learning endeavors. Moreover, it fosters an environment conducive to collaborative group dynamics, facilitating the exploration of diverse viewpoints and multifaceted perspectives in decision-making, problem-solving, and information assimilation. Within the connectivism framework, learning transcends the confines of an individual, extending to the collective intelligence of interconnected peers. This learning paradigm thrives on interactions through social media, internet networks, blogs, and knowledge repositories. Such interactions instigate collaboration and exchange of insights, forming a cohesive learning community.

A distinctive hallmark of connectivism lies in its empowerment of students and teachers. Here, the traditional roles shift as learners become active architects of their learning experiences. The teacher role

evolves into that of a facilitator who orchestrates conducive learning environments, nurtures communities of learners, and enables learners to navigate the learning landscape autonomously (Siemens, 2005). Amidst its attributes, connectivism embraces diversity as a fundamental tenet. It accommodates individual perspectives and actively promotes the variety of opinions and ideas each learner brings. Knowledge is not hierarchically structured in this construct, leading to a more equitable and inclusive distribution of insights and learning. Based on the theoretical and empirical literature, this current study examines the outcomes and challenges of the B.Ed. (4 years) program in developing student teachers' teaching skills for the 21st century. Furthermore, the study also examines B.Ed. (4 years) students' experiences as future teachers and understands their learning experiences as the gain of essential skills of the digital era on the inner and outer side of the classrooms. Additionally, the study evaluated how B.Ed. (4 years) students' learning experiences positively or negatively influence the teaching practice required in the 21st century.

Objectives of the Study

- To explore B.Ed. (4 years) student teachers views regarding the theoretical and practical aspects in enhancing their role as future teachers in the digital era
- To explore what knowledge, skills, and behaviors they acquire to become a teacher in the 21st century
- To examine the difficulties of B.Ed. (4 years) students have in developing their pedagogical skills and dispositions as teachers

Research Questions

- How do B.Ed. (4 years) student teachers view the program's theoretical and practical aspects in enhancing their role as future teachers in the digital era?
- What knowledge, skills, and behaviors do the student teachers acquire to become a teacher in the 21st century?
- What difficulties do B.Ed. (4 years) students have in developing their pedagogical skills and dispositions as teachers?

LITERATURE REVIEW

Balochistan's educational system has struggled for decades due to challenges such as insufficient infrastructure, lack of resources, political instability, and socioeconomic disparities (Abbas et al., 2022; Irfan et al., 2019). Consequently, the educational system cannot adequately educate students for the workforce requirements of the 21st century. To succeed in the workforce of the 21st century, a coherent and clinically rich teacher education program is needed to prepare teachers to bridge theory and practice (Darling-Hammond, 2017). However, the Balochistan educational system is still heavily reliant on rote memorization and does not allow children to acquire these crucial abilities and competencies of the 21st century (Nosheen et al., 2019; Iqbal & Naureen, 2019). As discussed earlier, preparing teachers to teach in the digital era emphasizes the effectiveness of relevance to the course work, technology integration, and the integration of theory and practice (Darling-Hammond, 2017), which has been considered while revising the BED program since the last few years. This raises a question about its efficacy in increasing the quality of teaching in this context. Literature suggests a bridge between teacher education programs and teacher pedagogical and content knowledge skills to prepare them to teach in the digital era by linking to equip teachers to navigate digital networks, engage in online communities of practice, and critically evaluate digital information (Downes, 2012; Siemens, 2004). This bridge can be seen in terms of the implementation of B.Ed. program on how student teachers perceive the efficacy of their overall experiences as effective teachers in the teacher education program.

Given this, the efficacy of B.Ed. (4 years) programs requires critical evaluation in developing future teachers' abilities in which they facilitate their students and enhance their 21st-century skills. Pre-service teachers must be provided with equipment for essential knowledge and required skills to effectively

teach in the 21st-century classroom (Choy et al., 2021). Therefore, the current research examines the identified gap to what extent digital era learning is being transferred to future teachers and what barriers and issues B.Ed. (4 years) students face from the side of institutions. Furthermore, this research explores the connectivism learning strategies influence the efficacy of teacher education (B.Ed.) program and its acquisition to prepare teachers to teach in the 21st century as future teachers and understand B.Ed. students' learning experiences as the gain of 21st-century skills in the classroom and outside of the school as well, at the University as a future teacher. Additionally, this research evaluates how B.Ed. (4 years) students' learning experiences positively or negatively influence their gain of 21st-century skills in Makran Division, Balochistan, Pakistan.

METHODOLOGY

This study is based on qualitative method and researchers used purposive sampling to select eighteen participants enrolled in the 8th semester of the B.Ed. (4 year) program at the University of Balochistan. Among them, 10 were male and 8 were female. Data were collected through semi-structured interviews. The interview guide was developed and its validity and reliability were verified by sending it to the relevant PhD faculty. Data analysis was done through inductive thematic analyses following the initial coding, focus coding, and generating themes process. Furthermore, to maintain the research ethics, the participants' names, identities, and affiliations were converted into different codes. Moreover, the researcher used 'MP' for male and 'FP' for female participants, and the serial number of respondents was not revealed.

RESULTS & FINDINGS

Thematic analysis included identifying initial and focus coding as described earlier. The following themes emerged to discuss the overall efficacy of the B.Ed. program.

Becoming a Teacher: Theoretical Perspectives

Findings indicate that student teachers view the significant outcomes of the program in terms of its relevance to learning about innovative ideas, teaching skills, engagement with critical and creative perspectives of teaching, and equipping them with technological skills. Overall, student teachers found the content of the B.Ed. program very beneficial in giving them theoretical perspectives on what teaching must include and how to support and facilitate classroom learning. A range of courses gave them a philosophical foundation of education, an understanding of learning and learners, and their role as teachers, including giving them perspective on various aspects of school, curriculum, and assessment. Since they mainly came from non-teaching experiences, after completing their twelve years of academic education, the program's content was highly motivating for them. The data indicated below demonstrate that their prospective role and responsibilities were very well known to them, as well as their awareness of the complexity of performing the role of a teacher in the 21st century.

They responded:

"The B.Ed. program improved my essential teaching skills, built my confidence, enhanced my language skills, and made me able to understand the human psyche.... It incorporates therapeutic elements that contribute to both professional and personal growth."

"The B.Ed. program provides in-depth subject knowledge, effective pedagogical skills, classroom management abilities, and proficiency in assessment methods..."

"Teacher training in the B. Ed program prepares future educators for real-world classroom scenarios, ensuring they are well-equipped to manage diverse classroom situations and deliver educational content effectively."

"Gaining prior knowledge of the school system through the B.Ed. program allows future teachers to navigate

the educational environment more effectively, aligning teaching practices with institutional expectations and enhancing overall educational effectiveness. ”

“This program is an essential training ground, preparing prospective teachers for future roles by equipping them with modern teaching and learning skills and bridging the gap between theoretical knowledge and practical application....”

“The B. Ed program is an essential instrument in professional development, providing pedagogical knowledge, psychological insights, and significant improvement in academic reading and writing skills, preparing future teachers to navigate the complexities of the teaching profession confidently. “

“The transformative experiences in learning.... how to effectively teach, communicate, and interact with students of diverse mindsets, developing their pedagogical and professional competencies....”.

The findings reflect the importance and role of teacher education programs in preparing quality teaching, which in turn, could be a driving force for social transformation as a longer-term outcome. My analysis is that the overall program content is aligned with the standard norms and standards of teaching recognized nationally and internationally. However, the theoretical perspectives and knowledge gained from the program, if applied in the actual context, could facilitate the teachers to plan and convey their expertise in a better and more appropriate manner, including proper reinforcement and practical assessment, classroom management skills, and better communication skills. Professional skills like soft skills, computer skills, management skills, and interpersonal and information-retrieving skills were highlighted as most important. Lifelong learning skills also assist teachers in rising in their profession and moving forward to nurture and nourish their profession.

“Student-centered teaching, practical learning approaches, creativity, strong communication skills, nurturing emotional intelligence, critical thinking, problem-solving, and decision-making abilities of the students.... The B. Ed program’s focus on modern pedagogical and technological knowledge ensures that future teachers are well-equipped to meet contemporary educational demands....The B.Ed. the program equips educators with skills, enabling them to create environments that foster these competencies among students”.

“The B. Ed program prepares prospective teachers to assimilate technology seamlessly into their practices, enhance learning experiences, and keep pace with changing educational tools and teaching methodologies”.

“Various strategies learned from the B. Ed program, include group work, discussion methods, and problem-solving techniques. These strategies, combined with insights from educational psychology create a more interactive and effective learning environment... diverse pedagogical strategies, such as demonstration and project-based learning, and the role of assessment in ensuring student-centered teaching is also viable...”.

“Acquiring new experiences and learning strategies that focus on conceptual understanding and the use of ICT tools, enhancing their ability to create engaging learning environments...”. “The B. Ed program equips teachers with modern skills to utilize various digital tools, making learning more interactive and engaging, and preparing prospective teachers to understand the digital era effectively...”.

“B.Ed. 4 years program practicum component offers hands-on experience, allowing prospective teachers to refine their skills through real classroom settings..... this program covers teaching and learning methods such as question-answering, demonstration, and both inductive and deductive techniques, promoting interactive and practical teaching approaches which are very effective....”.

Understanding of Being a Digital Teacher

The study’s findings suggest that technology courses were part of the program content to raise the student teachers’ knowledge of digital integration in teaching. Most respondents shared that technology integration involves seamlessly blending traditional teaching methods with modern digital resources, enabling teachers to create more engaging and interactive lessons during the teaching and learning process. They conceded:

“Future teachers must be proficient in digital literacy and modern pedagogical skills aligned with contemporary educational needs, understand students' psychology, and help them effectively address individual learning challenges. The B. Ed program provides these skills through ICT and educational technology courses, ensuring teachers can incorporate technology into their teaching practices”.

“The B.Ed. program provides foundational knowledge in cultural, political, religious, psychological, and philosophical areas, equipping teachers with competencies like language skills and technological proficiency and the development of critical thinking essential for contemporary education”.

“B. Ed program fosters a culture of continuous improvement, self-study, and expert consultations as part of continuous learning, technological integration, with a focus on communication skills, and overcoming pedagogical challenges..... B. Ed 4 years' program encourages self-study and expert consultations as part of continuous learning, technological integration, with a focus on communication skills, and overcoming pedagogical challenges”.

“The program prepares teachers to engage with students effectively, utilizing modern digital and ICT tools to enhance the learning experience. Flexibility and adaptability are crucial for adjusting to new educational trends and student needs to become successful members of the society”.

“Future teachers must be proficient in digital literacy and modern pedagogical skills aligned with contemporary educational needs, understand students' psychology, and help them address individual learning challenges effectively”.

The participants recognize that technological competencies are essential in the digital era and support teachers in remaining relevant and practical. The majority of the respondents believed that:

“The B. Ed 4 years' program provides these skills through ICT and educational technology courses, ensuring teachers can incorporate technology into their teaching practices”.

“The B.Ed program focuses on developing modern digital tools, ICT skills, and multimedia usage, these skills, enabling teachers to create engaging learning environments and utilize modern educational technologies. Additionally, critical thinking and problem-solving abilities are emphasized for adapting to the digital era”.

“The program's focus on the integration of technological tools, practical activities, pedagogical knowledge, and educational psychology equips educators to manage classrooms effectively and tailor teaching methods to student needs”.

“The B. Ed program focuses on developing ICT skills and multimedia usage enabling teachers to create engaging learning environments. Additionally, critical thinking and problem-solving abilities are emphasized for adapting to the digital era”.

“The B. Ed program helps teachers to develop their ICT skills gradually, enabling them to adapt and remain relevant in the modern educational system”.

“The program's focus on the integration of technological tools, practical activities, pedagogical knowledge, and educational psychology equips educators to manage classrooms effectively”.

Qualitative findings identified that understanding the role of technology in teaching is the utmost requirement of today's era. B. Ed 4 year program focuses on developing digital skills, ICT skills, technology integration, and modern teaching methods for teachers to enable them to adopt and use digital tools to enhance their instructional practices. The majority of the respondents opined:

“Teachers in the digital era must utilize ICT tools and develop digital teaching strategies. The B. Ed program addresses the needs of the digital era by incorporating digital tools into its curriculum, enhancing the ability of teachers to integrate technology into their practices to prepare students for a technology-driven world”.

“The B. Ed program equips teachers with modern skills to utilize various digital tools, making learning more

interactive and engaging, and preparing prospective teachers to understand the digital era effectively...”

“The B. Ed program prepares prospective teachers to assimilate technology seamlessly into their practices, enhance learning experiences, and keep pace with changing educational tools and teaching methodologies”.

Experiencing Teaching in Classrooms: Outcomes & Challenges

The findings show that the practicums were crucial to the four-year B.Ed. program. The curriculum gives student teachers real-class experiential learning opportunities to help them become effective teachers. The practicum covered three parts: observing teaching, teaching under the supervision of the trainer, and understanding school culture. The underlying assumptions were to provide student teachers the capacity to use their knowledge of theory and content in the context and examine its adaptation to the local conditions. The goal of this component was to provide reflective skills and the pedagogical environment needed to learn from the classroom practice.

Teachers reported:

“The B. Ed. 4 year program’s practicum component offers hands-on experience, allowing prospective teachers to refine their skills through real classroom settings. This program covers teaching and learning methods and practical teaching approaches”.

“Acquires new experiences and learning strategies that focus on conceptual understanding and the use of ICT tools, whereby creating engaging environments”.

“The demonstration method and digital technology strategies help develop learners’ concepts and improve student outcomes..... classroom management, pedagogy, and practical application through teaching practicums...”.

The qualitative findings explored that teachers’ pedagogical knowledge and skills encompass a range of critical competencies for effective teaching. Most respondents opined :

“The main role of a teacher is to guide learners towards becoming responsible individuals..the multifaceted nature of a teacher’s role and responsibility includes mastery of teaching methods, subject command, and pedagogical knowledge to manage classroom dynamics effectively”.

“The B. Ed program provides foundational knowledge in cultural, political, religious, psychological, and philosophical areas, equipping teachers with competencies like language skills and technological proficiency.”

“The program’s focus on the integration of technological tools, practical activities, pedagogical knowledge, and educational psychology equips educators to manage classrooms effectively and tailor teaching methods to student needs...”.

“The B. Ed program’s focus on modern pedagogical and technological knowledge ensures that future teachers are well-equipped to meet contemporary educational demands”.

The program provides psychological, philosophical, and student engagement knowledge. They responded:

“Teacher training in the B. Ed program prepares future educators for real-world classroom scenarios, ensuring they are well-equipped to manage diverse classroom situations and deliver educational content effectively.”

Gaining prior knowledge of the school system through the B.Ed. program allows future teachers to navigate the educational environment more effectively, aligning teaching practices with institutional expectations and enhancing overall educational effectiveness.

A teacher stated:

"This program is an essential training ground, preparing prospective teachers for future roles by equipping them with modern teaching and learning skills and bridging the gap between theoretical knowledge and practical application".

"The importance of understanding students' needs psyche is mandatory for a teacher to become an effective teacher. Teachers must tailor instructional strategies to address all needs of students and ensure a supportive and effective learning environment, having empathy and proactive engagement to foster mental and emotional development of the students".

"The B. Ed program is required to be an instrument in professional development, providing by pedagogical knowledge, psychological insights, and significant improvement in academic reading and writing skills, preparing future teachers to navigate the complexities of the teaching profession confidently".

The B. Ed 4 years' program emphasizes participating in educational conferences, seminars, and practical experiences that significantly contribute to teachers' professional growth.

"Educational conferences and seminars, along with practical experiences, are the opportunities available to student teachers".

The B.Ed. program provides foundational knowledge in cultural, political, religious, psychological, and philosophical areas, equipping teachers with competencies like language skills and technological proficiency and the development of critical thinking, which are essential for contemporary education.

"The B.Ed. program provides in-depth subject knowledge, effective pedagogical skills, classroom management abilities, and proficiency in assessment methods".

"Teaching training in the B. Ed program prepares future educators for real-world classroom scenarios, ensuring they are well-equipped to manage diverse classroom situations and deliver educational content effectively."

Various strategies learned from the B. Ed 4 year program, including group work, discussion methods, and problem-solving techniques when combined with insights from educational psychology, create a healthy and effective learning environment. Our analysis is that the research participants mainly examined the program's efficacy in terms of its content and course nature. There was no response on how they implemented pedagogical and technological skills and how the program's delivery helped them develop such skills. Moreover, the student teachers did not explicitly uncover the outcomes gained from the practicum component and feedback received from the supervisor to help them reflect on their experiences. As shared, the students' big ideas could be an indicator of examining the program's efficacy; however, the efficacy in terms of preparedness to become a teacher in the context remains silent in this study. Perhaps students did not experience the application and analysis of teaching methods in their own learning and teaching settings. It is also essential to notice here that in the context of Baluchistan, where basic facilities in schools are missing, the data does not reveal what experiences the student teachers had in the practicum and how contextual constraints limited their practice as digital teachers. Being a teacher is challenging, especially in the current era of high expectations within contextual constraints. However, the responses do not indicate any such challenges, which could also raise the question of student teachers developing critical and analytical perspectives towards their teaching and becoming lifelong learners in the digital era.

Discussion

Overall, the qualitative analysis uncovers an issue of students' reflection on the practical implications of the B.Ed. program. The findings indicate the theoretical soundness of the program. The breadth of the learning could be evident from the dominant dimension of the program, including student teachers' knowledge gained from a range of courses and placement in schools. However, the depth of the learning regarding how they learnt and how the theoretical knowledge from the course was implemented in the classroom context remains unspoken. The student teachers may gain an awareness of reflection, but

become reflective learners and teachers have far-reaching goals.

Although the program efficacy cannot be judged in terms of preparing teachers, as teaching itself is a continuous learning process, the dilemma is that the student teachers lack depth to continue their learning as teachers. The study's qualitative findings explored that teachers' pedagogical knowledge and skills encompass a range of critical competencies for effective teaching. Most respondents said that essential elements of the B. Ed 4 years program, such as educational psychology, student-centered teaching, and communication skills, enhance these competencies. Furthermore, they have highlighted that understanding student behavior, fostered engagement, and facilitated clear and effective communication are the backbone of effective teaching, allowing educators to create a learning environment responsive to student needs and conducive to learning. Moreover, the respondents emphasized that the program should be strengthened with the competencies of emotional intelligence, conducive environment creativity, and modern teaching methods to develop adaptable and innovative teachers in the digital era.

Trique and Kumar (2022) believe that B.Ed. 4 programs develop modern pedagogical skills and technological knowledge to meet contemporary educational challenges of the 21st-century classrooms. Additionally, the current findings are similar to the findings of Darling-Hammond (2017), who identified that B. Ed 4 programs emphasize developing pedagogical knowledge and skills of the student teachers necessary for effective teaching in diverse educational settings of the 21st century. Similarly, Koehler and Mishra (2009) in the TPACK framework emphasized integrating technology, pedagogy, and content knowledge, which are crucial for modern teachers to effectively teach and manage dynamic classrooms.

CONCLUSION

The study concludes that to increase the efficacy of the program, teacher educators and/or institutions must ensure the existence of quality pedagogy reflected in the delivery of theoretical content, a highly organized and supervised practicum component by including feedback through reflective skills and student teachers' participation in academic events and activities. The theoretical viewpoint in the absence of teaching competencies and extensive teaching experience may expand the gaps between theory and practice and impede the usefulness of teacher education in its real essence. Moreover, increasing the efficacy of teacher education programs leads to effective link theory offered in the courses and practicum, including an approach in which learning about teaching is enhanced through action research. Although the program content includes courses on research projects and methods, the data highlights whether action research contributes to teacher development, including better association of theory and practice.

Recommendations and Suggestions for Stakeholders

- B.Ed. 4-year students should participate in continuous learning opportunities such as workshops, seminars, and online courses to stay updated with the latest educational methodologies and technologies.
- B.Ed. 4-year students should foster a mindset of lifelong learning and professional development to adapt to the evolving demands of the modern HEI. They must support the professional development of teachers by providing access to training programs, resources, and opportunities for continuous learning.
- The faculty of teacher education institutes must be educated on the curriculum using innovative pedagogy and assessment methods.
- Administrations of HEIs must encourage collaboration among teachers to share best practices and innovative teaching strategies, nurturing a culture of continuous improvement among faculty members.
- HEI's authority must invest in technological infrastructure and resources to ensure teachers have sufficient tools to integrate ICT effectively into their teaching practices.
- Government and policymakers must take action to promote research and innovation in teacher education programs to improve the quality and effectiveness of the B. Ed 4-year curriculum to meet

the needs and demands of contemporary education.

- Government and policymakers should implement B. Ed degree that is compulsory for teaching, but not mandatory for school teachers in Balochistan.
- Government and policymakers should develop a monitoring team to investigate whether B. Ed degree holders implement their learned knowledge and skills in their practical teaching after their appointment as government teachers.

Competing Interest

The authors reported no potential conflict of interest.

Authors' Biography

- ¹ **Manzoor Ahmed** is a Lecturer at the Department of Education, University of Turbat in Turbat – Pakistan. He received his M.Phil. in Education from Iqra University in Karachi – Pakistan.
- ² **Razia Fakir Mohammad (Ph.D)** is a Professor at the Department of Education, Iqra University in Karachi – Pakistan. She obtained her Doctorate in Mathematics Teacher Education from Oxford University in Oxford – United Kingdom.

REFERENCES

- Aabla, B. I. Q. I. C. H. E. (2017). A review on 21st century learning models. *International Interdisciplinary Journal of Education*, 6(1), 254-263.
- Abbas, H. S. M., Xu, X., & Sun, C. (2022). The role of state capacity and socio-economic determinants on health quality and its access in Pakistan (1990–2019). *Socio-Economic Planning Sciences*, 83, 101109.
<https://doi.org/10.1016/j.seps.2021.101109>
- Ahmad, I., & Hussain, M. A. (2014). National education policy (NEP 2009-2015) in Pakistan: Critical analysis and a way forward. *Journal of Social Sciences and Humanities*, 53(2), 53-60.
<https://doi.org/10.46568/jssh.v53i2.169>
- Chapman, J. D., & Aspin, D. N. (2013). A problem-solving approach to addressing current global challenges in education. *British Journal of Educational Studies*, 61(1), 49-62.
<https://doi.org/10.1080/00071005.2012.756166>
- Choy, S. C., Dinham, J., Yim, J. S. C., & Williams, P. (2021). Reflective thinking practices among pre-service teachers: Comparison between Malaysia and Australia. *Australian Journal of Teacher Education (Online)*, 46(2), 1-15.
- Darling-Hammond, L. (2017). Teacher education around the world: What can we learn from international practice?. *European Journal of Teacher Education*, 40(3), 291-309.
<https://doi.org/10.1080/02619768.2017.1315399>
- Downes, E. R. (2012, August). Trust, Engagement, and Technology Transfer: Underpinnings for US-Brazil Defense Cooperation. In *Strategic Forum* (No. 279, p. 1). National Defense University Press.
- Feiman-Nemser, S. (2001). From preparation to practice: Designing a continuum to strengthen and sustain teaching. *Teachers College Record*, 103(6), 1013-1055.
<https://doi.org/10.1111/0161-4681.00141>
- Halder, I. (2023). Innovation pedagogy of 21st century: Challenges and opportunities. *International Journal for Multidisciplinary Research*, 5, 1-6.
- Ingersoll, R. M., & Strong, M. (2011). The impact of induction and mentoring programs for beginning teachers: A critical review of the research. *Review of Educational Research*, 81(2), 201-233.
<https://doi.org/10.3102/0034654311403323>
- Iqbal, M., Razi, S. K. A., & Cheema, I. U. (2022). Implementation of the B.Ed. (Hons) Program curriculum at post graduate levels: Problems and Prospects. *Harf-o-Sukhan*, 6(2), 113-124.
- Iqbal, Z., & Naureen, S. (2019). A study to explore the link between demonstration teaching method in physics

- and student's learning achievement at secondary level in Quetta District. *Journal of Education And Humanities Research (JEHR)*, University of Balochistan, Quetta, 8(II).
- Irfan, M., Hameed, S. A., Sarwar, U. B., Abas, N., & Saleem, M. S. (2019). SWOT analysis of energy policy 2013 of Pakistan. *European Journal of Engineering Science and Technology*, 2(1), 71-94.
<https://doi.org/10.33422/ejest.2019.01.53>
- Koehler, M., & Mishra, P. (2009). What is technological pedagogical content knowledge (TPACK)? *Contemporary Issues in Technology and Teacher Education*, 9(1), 60-70.
- Majoka, M. I., & Khan, M. I. (2017). Education policy provisions and objectives. A review of Pakistani education policies. *Italian Journal of sociology of education*, 9(Italian Journal of Sociology of Education 9/2), 104-125.
<https://doi.org/10.14658/PUPJ-IJSE-2017-2-6>
- Mățã, L., & Suci, A. I. (2011). Curricular innovative model focused on developing pedagogical competences of teachers of Language and communication. *Procedia-Social and Behavioral Sciences*, 12, 274-282.
<https://doi.org/10.1016/j.sbspro.2011.02.036>
- Mundy, K., & Murphy, L. (2001). Beyond the nation-state: Educational contention in global civil society. *Education Between States, Markets, and Civil Society: Comparative Perspectives*. Mahwah, New Jersey: Lawrence Erlbaum Associates Publishers.
- Mynbayeva, A., Sadvakassova, Z., & Akshalova, B. (2018). Pedagogy of the twenty-first century: Innovative teaching methods. *New pedagogical challenges in the 21st century. Contributions of Research in Education*, 7, 564-578.
<https://doi.org/10.5772/intechopen.72341>
- Nosheen, S. S., Akram, M., & Javed, M. (2019). Problems of University Students in Speaking English during Classroom Participation. *International Journal of Innovation in Teaching and Learning (IJITL)*, 5(2), 64-78.
- Qazi, W., Rawat, K. J., & Thomas, M. (2012). The role of practicum in enhancing student teachers' teaching skills. *American Journal of Scientific Research*, 44(12), 44-57.
- Sarwar, B., Zulfiqar, S., Aziz, S., & Ejaz Chandia, K. (2019). Usage of social media tools for collaborative learning: The effect on learning success with the moderating role of cyberbullying. *Journal of Educational Computing Research*, 57(1), 246-279.
<https://doi.org/10.1177/0735633117748415>
- Siddique, M., Siddique, A., & Khan, E. A. (2023). Academic optimism and teachers' commitment: an associational study of Pakistani teachers. *Journal of Educational Research and Social Sciences Review (JERSSR)*, 3(1), 178-188.
- Siemens, G. (2004). Elearnspace. Connectivism: A learning theory for the digital age. *Elearnspace.org*, 14-16.
- Siemens, G. (2005). Connectivism: Learning as network-creation. *ASTD Learning News*, 10(1), 1-28.
- Trique, M., & Kumar, A. (2022). Proposed four years integrated B. Ed. Program: Attitude and perceptions of teacher educators. *Elementary Education Online*, 20(1), 7129-7129.