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Revamping the Potential of Personalized Learning Platforms for Transformative Professional Development. A Phenomenological Study in Context of Teacher Training Institution in the context of Sukkur, Sindh

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ABSTRACT

The phenomenological study aims to explore the lived experiences, perceptions and challenges faced by teacher educators in the B.Ed. Honors Program in public sector teacher training colleges and universities of Sukkur in leveraging Personalized Learning Platforms (PLPs) for their Traditional professional development (PD). Data collected through 8 semi-structured interviews of those teacher educators who had availed such platforms (i-e, Coursera, LinkedIn, edX, Moodle, MOOCs Udemy, Skillshare and alike) and analysis of online platform usage. Phenomenological thematic analysis was used to identify emerging patterns and themes related to personalized learning, PD, and challenges in the implementation process. This study sheds light on the diverse ways teacher educators engage with customized learning platforms. The study also reconnoiters opportunities, teacher-educators' experiences and barriers. Preliminary findings emphasize the need for targeted PD programs that integrate personalized learning tools to support teacher educators effectively. The study provides valuable insights into integrating PLPs in teacher education, offering recommendations for educational leaders, teacher-educators, policy makers, and teacher training agencies for overcoming challenges and optimizing PD opportunities.

Keywords: Personalized Learning Platforms (PLPs), Professional Development (PD), Teacher Educators, Phenomenological Study, Teacher Education.

Introduction

The teaching field demands advanced competencies from teacher educators who work in a time marked by quick technological advancements and transforming educational frameworks. Teacher educators need to simultaneously develop adaptive skills and innovative approaches as they are expected to demonstrate reflective teaching methods that equip future educators to manage 21st-century classrooms (Mussa et al., 2025). Access to professional development (PD) opportunities needs to be enhanced to prepare teachers. Periodic workshops, traditional top-down training programs, and lecture-based professional development sessions are not

sufficient solutions to the diverse requirements of teacher-educators in the times of Education 5.0 and dynamic society. These traditional approaches are characterized by generic content and restricted delivery, due to their separation from the learning trajectory and context of individual educators and therefore they remain ineffective for long run.

PLPs (PLPs) have emerged as a worldwide transformative solution for PD to address the existing PD limitations. These self-directed learning platforms, which include Coursera, edX, Moodle, LinkedIn Learning, Skillshare, Udemy, MOOCs and others, increased teachers' access to a flexible and modular online learning system to enhance their PD through adaptive educational content (Anis, 2024). PLPs allow educators access to a multitude of content, worldviews, and skills credentials encouraging teachers to take independent decisions about their learning pathway following adult learning principles and autonomous professional development programs.

Although recent literature states the significance of PLPs, their actual implementation within developing country public-sector teacher education institutions requires further exploration. In Pakistan, the practices of professional development processes mostly depend on face-to-face mode of training whereas the digital platforms are not used extensively in the teacher education programmes (Channa et al., 2025; Khalid, 2024). The problems are notably worse in interior Sindh because of inadequate infrastructures and institutional and sociocultural limitations. Despite this environment and these barriers, certain teacher educators voluntarily engage with PLPs as components of their PD activities. PD models often fail to meet the diverse needs of educators aligning with the teacher preparation for the 21st Century, leading to a growing interest in personalized learning platforms (PLPs). These platforms offer a flexible, learner-centered approach, allowing teacher educators to access tailored resources, strategies, and tools to enhance their teaching practices (Fakhar, 2024). However, challenges remain in their integration and utilization within teacher education programs, particularly in Pakistan.

The research explores teacher educators' personal experiences in public sector B.Ed. (Honors) programs in Sukkur, Pakistan, who utilize educational platforms for their PD. Rather than evaluating the effectiveness of PLPs or measuring outcomes, this research explores how teacher educators perceive, interpret, and make meaning of their interactions with these platforms, what motivates them, how they navigate challenges, and in what ways their professional identities and practices are shaped through these experiences.

A phenomenological research approach uncovers the essence of these experiences, focusing on the participants' subjective perspectives and emotions. This design allows for deep, rich narratives, illuminating the practical aspects of PLP engagement and the internal transformations and insights accompanying it.

The main research questions of this investigation include:

1. What are the lived experiences of teacher educators using personalised learning platforms for professional development?
2. How do teacher educators perceive and interpret the opportunities and challenges associated with PLPs?
3. In what ways do these experiences shape their professional identities and teaching practices?

The significance of this study is that it seeks to explore contextual understandings of teacher-educator utilization of PLPs in their professional practice in resource constrained developing country context settings. The research extends conversations about digital professional learning in teacher education that are based on personal experiences of users who use these tools. Practical guidance exists for agencies of teacher educators, leaders of teacher education

institutes and policymakers, and monitoring institutions that maintain the quality of teacher education.

II. Literature Review

2.1 Revamping the Professional Development for Teacher Educators

The PLPs for teacher educators' PD update the required knowledge, skills, and dispositions that enable them to respond effectively in their workplace through self-reflective practices. Contemporary PD practices within systems focus on traditional approaches such as seminars, top-down training sessions, and workshops, particularly in developing countries. These approaches have less flexibility and do not address the individualized instructional needs of educators. Research findings indicate that these models remain disconnected from teachers' contextual realities since they fail to promote deep ongoing learning (Hennessy et al., 2022).

Teacher-educators are expected to more effectively prepare future teachers through meaningful and flexible professional development programs. Teachers require learning environments that let them pursue education according to personal needs while evaluating their work and discovering applicable classroom practices for their specific setting. Modern educational settings need PLP models that provide continuous access to PD opportunities aligning with global quality standards.

2.2 The Rise of Personalized Learning Platforms (PLPs)

Teacher-educators use PLPs such as Coursera, edX, Udemy, LinkedIn Learning, Moodle and MOOCs to develop their professional capabilities. PLPS allow users to gain control by determining their learning selection, teaching timeline, and chosen education method. Their flexible structure specifically empowers educators who manage busy routines and avail themselves of official training programs.

The PLPs support the learners who are able to progress at their desired pace based on their interests. Some platforms are free with learning, certificates, practical activities, access to global experts and peer communities, whereas others have small fees depending on duration, tutor expertise and other limitations. Utilization of PLPs allows teacher-educators to increase their ability to use digital tools and create more content for their teaching and to refine their pedagogical practices. Literature shows that these platforms enhance learner engagement and motivation, providing educators with a self-directional learning experience (Trust et al., 2016; Krause & Lowe, 2014).

The PLPs in Pakistan help learners overcome geographical, financial, cultural, and institutional challenges in low-resource settings. Educators without standard access to physical training can maintain their educational connections and worldwide educational trends through online resources.

2.3 Challenges in Using PLPs for PD

Online professional learning platforms face specific obstacles, which become more pronounced in countries with developing economies. Janet et al., (2022) identified that several educators face two main barriers to connecting to the Internet with proper digital technology because of the digital divide, there are restrictions on which populations can utilize online educational resources and teachers who lack enough training or support often feel incapable of working with technology at the same proficiency level.

There are also institutional challenges. Chaipidech et al. (2022) claimed that many teacher education programs fail to incorporate PLPs into their official structures of personnel development or provide formal recognition to them. Educators may complete their online coursework but maintain no official participation record, earning no recognition for their

efforts or gaining options to share obtained knowledge. When institutions fail to back PLPs, they transform into additional work that does not aid PD.

Time is another significant barrier. Teacher-educators have multiple and demanding job duties that range from teaching to administrative ones and family obligations. Self-paced online learning means intrinsic motivation and good time management, especially without the external structures of support and accountability.

2.4 Theoretical Framework: Knowles' Andragogy (Adult Learning Theory)

This research is informed by the theory of andragogy developed by psychologist David Anderson Knowles in 1980, which has an emphasis on adult learning behaviour patterns. Adult learners have capacities for self-directive, have accumulated valuable life experience, and have organisational and personal professional learning needs (Knowles, 1980). Adult learners demonstrate their complete involvement by feeling personally responsible while the learning process upholds their experience-based autonomy. The fundamental concepts of personalized learning systems are well aligned and matched with these principles. Personalized learning tools allow educators to determine their learning requirements before choosing suitable pathways that enable immediate practice application. In a phenomenological study focused on the lived experience of teacher educators, andragogy helps explain why and how these educators are motivated to use PLPs and how they make sense of these experiences in their professional contexts.

III. Methodology

The study takes a qualitative phenomenological approach to understand lived experiences of teacher-educators in the use of PLPs for their professional development activities. Phenomenology serves as a suitable research method because its main goal centers around understanding how participants experience and construct meaning from certain events or phenomena, which includes PLP platforms such as Coursera, edX, Moodle, LinkedIn Learning, Udemy, MOOCs, Skillshare and others alike. Current research uses descriptive narratives from participants to reveal the core elements of their lived experienced phenomena instead of developing outcome measures or making generalized findings.

The participants were selected through purposive sampling of teacher educators who work at public sector teacher-education colleges which offer B.Ed. (Honors) program in Sukkur, Pakistan. Only teacher educators who have implemented PLPs during the past five years were considered eligible for participation because this selection criteria allows researchers to analyze up-to-date relevant experiences. Eight teacher educators participated in this as the saturation point was on the seventh interview, and the eighth was to confirm that saturation point to get in depth, meaningful insights.

Semi-structured interviews with built-in depth questions form the method for data collection. Participants were autonomous enough to withdraw at any stage during interviews to provide their experiences, perspectives, and understandings about the PLP they used. The interview questions assess participants' reasons for interacting with PLPs, their challenges during usage, and the professional advantages and expanded teaching approaches derived from these activities. The face-to-face interviews lasted between 40 to 55 minutes, based on participant choice and researcher ability to organize encounters. All recorded interviews with participants were used to authorize consent while they produced audio files, and researchers transposed these recordings to perform analysis.

Data was analyzed using phenomenological thematic analysis (Moustakas, 1994). The researcher carefully avoided all preconceptions in order to attach equal importance to the participant statements in the process of horizontal analysis. The researchers grouped these

statements according to their meanings to establish the core themes of the research. The process moved toward textural descriptions, defining what participants encountered after researchers established structural descriptions that outline their experiences and associated contexts and conditions through the member check technique. A complete story is constructed to present the phenomenon's essence by incorporating these elements.

Ethical standards were followed throughout the research journey. All participants completely understood this research's purpose, the operational details at hand, and their freedom to join or exit without hesitation at any point during the study period. All collected data remained confidential through two safety measures: participants received pseudonymous names for protection, and digitised recordings and transcripts used secure storage systems. The data collection process started after securing ethical clearance from the appropriate institutional review board or institutional head/authority.

Findings from research cannot extend beyond teacher educators in Sukkur due to the constrained sample size, which was chosen intentionally. This study obtains data through self-reporting, but participants could present information based on their memory recall or personal understanding of each question. Digital literacy and technological comfort levels between participants differ in their experience and expression of PLP use. Despite these limitations, the phenomenological research method revealed in-depth knowledge about teacher educators' personal experiences with learning platforms in a developing educational background.

IV. Results and Discussions

The findings are organized into five major themes, which respond to the research questions and is interpreted through the lens of Knowles' andragogy related to self-directed, relevant and experiential adult learning.

1. Self-Motivation and Professional Identity: "I Wanted to Learn from the Best"

Participants expressed strong intrinsic motivation to engage with PLPs, driven by curiosity, self-improvement, and a desire to stay globally connected. This learning was not institutionally required but rather a result of their initiative, reflecting Knowles' emphasis on self-direction.

"I saw a Coursera ad on teaching pedagogy and could not believe that a teacher from a third world country like me could learn from top universities like London or Harvard. It was thrilling" (P1)

"I wanted to learn not because anyone told me to but because I felt I needed to grow professionally" (P2)

PLPs were also viewed as a tool for professional recognition, even if that recognition was absent in formal systems. For example, earning certificates brought personal satisfaction, even when departments dismissed them.

"I completed over 20 courses, but my department does not even consider them in my annual report. Still, I know I have improved" (P1)

2. Transformative Teaching and Reflective Practice: "My Students Noticed the Change"

PLP engagement led to transformations in pedagogical practice, including more student-centred, tech-integrated approaches. Several participants mentioned using tools like group work, online quizzes, flipped learning, digital discussions, and assigning PLPs to their students.

"Following a course in ICT, I stopped relying on lectures for the whole time. I created group activities, online forums, and even flipped a lesson" (P3)

"These platforms do not just give theory; they show how to apply it. I have redesigned my midterm assessment based on a course I had taken" (P5)

Participants also reported a shift toward reflective thinking and continuous improvement, which connects directly with adult learners' need for relevance and real-world application.

"Initially, I thought it would be easy just to get a certificate, but when I started repeating content and reflecting, it deepened my understanding" (P1)

3. Systemic and Contextual Barriers: "Learning Online Meant Sacrificing My Family Time"

Participants encountered structural, cultural, and logistical barriers despite their passion, making online learning challenging.

"I had to leave my tuition classes and use that time for learning. No leave, no help from college, it was purely my effort" (P1)

"Even after learning something powerful, applying it is hard because the department just wants routine, not innovation" (P4)

Other common issues included; lack of recognition in performance evaluations, limited or unstable internet, no institutional time allowances for online learning, technostress and lack of initial ICT skills, and cultural resistance to "informal" online learning

"When I said I did a Coursera course, my colleague asked, 'So, you watched YouTube and got a certificate?' That mindset hurts" (P2)

4. Value and Versatility of PLPs: "Flexible, Global, Practical"

Participants appreciated the flexibility, practical orientation, and global exposure that PLPs offer. They described the learning as high quality, modular, and multimodal (videos, reading, and peer forums).

"Even when I could not finish a course on time, I saved the content and used it later in my class" (P1)

"These platforms give you reading, audio, assessment, even peer feedback it is more comprehensive than most of our workshops" (P6)

The asynchronous design of most PLPs allowed educators to learn without needing official leave or traveling to workshops. Some recommended that the platforms adjust session timings or deadlines for better alignment with local working hours.

"Evenings and weekends would be ideal. Our schedules do not match their time zones" (P1)

5. Aspirations for Recognition and Institutional Integration: "Make It Count"

All participants emphasised the need for formal recognition, structured support, and local adaptation of PLPs into Pakistan's teacher education system. Many proposed blended PD models and integrating PLPs into student learning.

"HEC should specify which PLPs are acceptable and link them with promotion or allowances. Right now, they mean nothing officially" (P3)

"Colleges should digitise staff records and suggest relevant PD courses based on our needs" (P1)

Participants recommended solutions based on their lived experiences including; assigning course credit for online learning, creating local support groups or "expert clubs" to discuss what is learned, replacing traditional assignments with PLP modules for B.Ed. students, encouraging hybrid systems with in-class reflection and online course completion

"Instead of paper assignments, we should assign students Coursera or Moodle courses and assess their learning from there. It is more relevant now" (P3)

V. Discussions

The study verifies current research findings and extends previous work while identifying regional factors impacting the Sindh area.

1. Motivation and Self Directed Learning

The research is intensely connected to previous studies showing how PLPs help adult professionals achieve self-directed learning abilities. According to Knowles' (1980) definition of andragogy, people choose Coursera Moodle and FutureLearn because they wish to learn for personal growth and to remain relevant in their fields.

The study results match Lan (2022) and Zhu, Bonk, & Berri (2022) because teacher educators demonstrate deeper engagement with PD by controlling their learning speed, material selection, and completion timing.

Through analysis of socioeconomic factors and institutional influences in Sindh Province, the study extended the understanding of self-direction characteristics. Participants' learning choices occurred in different circumstances, where they excluded themselves from others yet continued studying independently and without departmental encouragement. These educators gained power and faced numerous challenges because they lacked fundamental institutional support or educational infrastructure.

2. Transformative Practice: Extending the Understanding of Impact

Research by Sezgin (2020) and Koukis & Jimoyiannis (2019) also echoed that PLPs trigger pedagogical changes. The participants integrated digital resources with flipping instruction and group collaboration and shifted toward formative assessment practices in their educational settings. Various participants experienced transformations of their educational identity because they viewed themselves as educators who focused on learners and practiced reflective teaching.

The depth of cultural resistance that researchers encountered while implementing these changes represents what advances the existing literature. Educational staff who participated in this research faced resistance from their colleagues and administrators who needed educators to prove the validity of their teaching experiments before accepting them. Systemic obstacles rather than personal doubts are significant obstacles to implementing online learning advantages, according to research findings from the study's cultural context. These findings depart from the common focus of the literature within the contemporary PLP.

3. Barriers and Cultural Disconnect

The results of the research emphasize the fact that the environmental conditions in the Sindh region exacerbate various existing obstacles related to digital literacy and the complexity of platforms (Ahmed et al., 2017; Gul, Tahir, & Ishfaq, 2023; Misra, 2018). Numerous participants identified a lack of time, work conflicts, technical issues, and interruptions of internet and electricity connections as primary learning obstacles. Beneath all these factors stood the deprecatory cultural view toward online learning as a central thematic element. Contrary to Western research findings identifying digital PD as an institutionalized practice (Copur-Gencturk, Li, & Atabas, 2024), participants reported their departments viewed PLP certifications as insignificant.

4. The study advocates for structured recognition and blended integration approaches

This study's main unique finding consists of its policy-relevant discovery that participants need learning platform access while demanding official admission into PD frameworks through PD-linked promotions, College-based learning clusters. The proposed method includes students taking digital-based courses alongside traditional reflection sessions.

The participants provided direct and systemic recommendations for institutional support of PLPs (Phulpoto, Oad, & Imran, 2024), but previous studies show limited emphasis on these specific recommendations, particularly in low-resource areas. The learning process involving adult learners from Sindh demonstrates their ability to form policy ideas about meaningful PLP implementation in public educational settings.

Implications

The findings of this study hold several important implications for teacher education policy, institutional leadership, and PD design in Sindh and similar contexts. Participants' autonomous learning behaviors and internal motivation opt to challenge prevailing beliefs that professional

development must be administratively forced. The educators independently worked toward obtaining meaningful educational experiences through PLP programs while lacking official motivations. Educators will dedicate time to self-improvement if PD maintains relevance, flexibility, and accessibility. The results indicate that personal changes oppose larger organizational structures within education systems. Organizations need to back up classroom-level transformations by implementing policies which measure performance alongside cultural beliefs that advance continuous learning. Adopting worldwide educational platforms Coursera and edX offered valuable opportunities, albeit they did not fully adapt to regional educational factors. An enhanced method of instructor digital development requires localized cultural models to unite world-class instructional techniques within Pakistan's teaching environment.

Recommendations

Considering these discoveries, the following suggestions aim to benefit educational institutions, policy makers, and teacher trainer authorities operating in Sindh alongside other similar areas:

1. **Formal Recognition of PLP Learning:** Educational institutions should incorporate teacher PLP-certified knowledge and skills into evaluation processes by including such achievements in Annual Confidential Reports (ACRs) and employee promotion and incentive evaluation cycles. Official recognition of PLP achievements will prove the work's value and drive more educators to join such initiatives.
2. **Policy Integration through HEC and Government Bodies:** National and provincial education bodies under HEC should establish policy implementations to support certified PLPs through provider recommendations or platform endorsement.
3. **Localized and Blended PD Models:** The PD models should integrate online teaching methods with in-school evaluation processes, multistakeholder study groups, and post-educational sessions. Such measures would make online learning more accessible for practical use.
4. **Infrastructure and Access Support:** Public institutions should enhance Internet access, computer laboratory facilities, and official time allocations to reduce teacher workloads for PLP participation.
5. **Capacity Building in ICT:** ICT capacity building should begin by introducing basic ICT skills training for all teacher educators before progression. Implementing these steps will decrease technostress and promote better interaction within digital learning platforms.
6. **Linking Student and Teacher PD:** Student Personal Learning Plans (PLPs) need to advance their use from teacher development methods to dual application between faculty improvement and student education initiatives. Students should complete relevant online modules through assignments to improve their accountability and new learning exposure.

Future Research Directions

The research about teacher educators' use of personalised learning platforms in Sukkur, Sindh, reveals significant findings but creates multiple opportunities for additional research investigations. Research should explore wider patterns regarding online PD by comparing settings between Pakistan's regions, public and private institutions, and urban and rural areas. The evolution of classroom innovation and institutional culture would be monitored through extended research on the effects of online learning tool interactions. Research involving specific platforms enables the identification of practical features (peer assessment, discussion forums, gamification, and artificial intelligence) that can improve teacher engagement and educational outcomes in Pakistani educational settings. Research of individual teacher training institutions and universities should investigate successful implementation methods of PLPs

within teachers' formal PD programs as examples for broader national adoption. Strategic investigations will strengthen PD comprehension and create sustainable learning solutions that mirror local practices and can grow as part of Pakistan's educational framework.

Conclusion

Teacher educators in Sindh demonstrate readiness toward using PLPs because they are motivated and reflective while facing significant obstacles in their learning environments. The complete potential of these platforms will stay unsupported because they lack formal recognition combined with institutional backing and infrastructure enhancement. Systemic integration requires a change from individual efforts to present a framework which includes policies supporting teacher educators with relevant technology and an ongoing learning professional culture. Placing PLPs inside national and institutional PD strategies will lead Pakistan toward a forward-looking and fair teacher education system which prioritizes ongoing learning.

References

- Ahmed, S.S., Khan, E., Faisal, M. & Khan, S. (2017). The potential and challenges of MOOCs in Pakistan: a perspective of students and faculty. *Asian Association of Open Universities Journal*, Vol. 12 No. 1, pp. 94-105. <https://doi.org/10.1108/AAOUJ-01-2017-0011>
- Anis, M. (2024). Teacher professional development in the digital age: Addressing the evolving Needs Post-COVID. *International Journal for Multidisciplinary Research*, 6(1), 1-14. <https://doi.org/10.36948/ijfmr.2024.v06i01.12386>
- Chaipidech, P., Kajonmanee, T., Chaipah, K., Panjaburee, P., & Srisawasdi, N. (2021). Implementation of an Andragogical Teacher Professional Development Training Program for Boosting TPACK in STEM Education: The Essential Role of a Personalized Learning System. *Educational Technology & Society*, 24(4), 220–239. <https://www.jstor.org/stable/48629257>
- Channa, I., H., Asad, M., M., Chachar, Z., A., & Palpanadan, S., T. (2025). Teachers' Perception and Challenges for Integration of Digital Technology in Teaching English: A Case Study of Community Colleges of Sindh, Pakistan. *Korea Journal of English Language and Linguistics*, 25, 151-169. <https://doi.org/10.15738/kjell.25..202502.151>
- Copur-Gencturk, Y., Li, J., & Atabas, S. (2024). Improving Teaching at Scale: Can AI Be Incorporated Into Professional Development to Create Interactive, Personalized Learning for Teachers?. *American Educational Research Journal*, 61(4), 767-802. <https://doi.org/10.3102/00028312241248514>
- Fakhar, H., Lamrabet, M., Echantoufi, N., khattabi, K., Ajana, L. (2024). Towards a New Artificial Intelligence-based Framework for Teachers' Online Continuous Professional Development Programs: Systematic Review. *International Journal of Advanced Computer Science & Applications*, Vol 15, Issue 4, p480. <https://doi.org/10.14569/ijacsa.2024.0150450>
- Gul, R., Tahir, T., & Ishfaq, U. (2023). Perspectives of the Teachers on Challenges and Possibilities to Online System of Education amid COVID-19 Outbreak in Balochistan, Pakistan. *SAGE Open*, 13(1). <https://doi.org/10.1177/21582440231155063>
- Hennessy, S., Angelo, S., McIntyre, N., Koomar, S., Kreimeia, A., Cao, L., Brugha, M., Zubairi, A. (2022). Technology Use for Teacher Professional Development in Low- and Middle-Income Countries: A systematic review. *Computers and Education Open*, Volume 3, 2022, ISSN 2666-5573, <https://doi.org/10.1016/j.caeo.2022.100080>.
- Janet C. Fairman, David J. Smith, Paige C. Pullen, Steve J. Lebel (2022). The challenge of keeping teacher professional development relevant. In *Leadership for Professional Learning*.

- Khalid, S. (2024). Grasping The Challenge of Online Professional Development (OPD) in Pakistan. *AL-ĪMĀN Research Journal*, 2(01), 18-27. <https://alimanjournal.com/ojs/index.php/home/article/view/15>
- Knowles, M. S. (1984). *Theory of andragogy. A Critique*. International Journal of Lifelong. Cambridge MA.
- Koukis, N. & Jimoyiannis, A. (2019). MOOCS for teacher professional development: exploring teachers' perceptions and achievements. *Interactive Technology and Smart Education*, Vol. 16 No. 1, pp. 74-91. <https://doi.org/10.1108/ITSE-10-2018-0081>
- Lan, Y. (2022) The Role of Teachers' Grit and Motivation in Self-Directed Professional Development. *Front. Psychol.* 13:922693. <https://doi.org/10.3389/fpsyg.2022.922693>
- Misra, P. K. (2018). MOOCs for teacher professional development: Reflections, and suggested actions. *Open Praxis*, 10(1), 67–77. <https://search.informit.org/doi/10.3316/informit.423781056331963>
- Moustakas, C. (1994). *Phenomenological research methods*. Sage. Thousand Oaks
- Mussa, N., Majdalawi, H., Massarwa, I., & Qadiria, T. (2025). Teachers' Perspectives On Ai-Based Professional Development In Modern Education. *International Journal of Innovation Studies*, 9(1), 143-157. <https://doi.org/10.5281/zenodo.14877619>
- Perspectives, Constructs and Connections. Routledge, London. p. 13 <https://doi.org/10.4324/9781003357384>
- Phulpoto, S. A. J., Oad, L., & Imran, M. (2024). Enhancing Teacher Performance in E-Learning: Addressing Barriers and Promoting Sustainable Education in Public Universities of Pakistan. *Pakistan Languages and Humanities Review*, 8(1), 418–429. [https://doi.org/10.47205/plhr.2024\(8-1\)38](https://doi.org/10.47205/plhr.2024(8-1)38)
- Sezgin, S. (2020). Teacher education MOOCs: Re-thinking professional development of teachers according to the MOOC experiences of preservice teachers and teacher trainers. *Ilkogretim Online*, 19(4). <https://doi.org/10.17051/ilkonline.2020.764616>
- Zhu, M., Bonk, C. J., & Berri, S. (2022). Fostering self-directed learning in MOOCs: Motivation, learning strategies, and instruction. *Online Learning*, 26(1), 153-173.