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PROSPECTIVE TEACHERS' PERSPECTIVES ON PEDAGOGICAL CHALLENGES EXPERIENCED DURING WORK-BASED LEARNING

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Abstract. *This study investigates prospective teachers' perspectives regarding pedagogical issues and evaluates their readiness to address these challenges during instructional practice. The research investigates the experiences and perspectives of 67 students currently enrolled in teacher education programmes by employing a narrative content analysis methodology. The results point to several significant areas of concern among prospective teachers. Initially, classroom management emerged as a primary challenge, with many students expressing anxiety about efficiently managing diverse classroom dynamics and maintaining discipline. This problem indicates the need to pay more attention to classroom management strategies in study courses. Furthermore, the findings emphasize difficulties in effectively differentiating instruction to meet the diverse needs of learners. It was indicated that there is a need for more concentrated training in inclusive teaching methods since students voiced worries about their capacity to adjust teaching approaches to accommodate a variety of learning styles and abilities. The study suggests that prospective teachers are generally enthusiastic about their future careers but also recognize significant pedagogical challenges. To properly prepare future educators for the realities of the classroom, these findings have implications for teacher education programmes. They indicate a need for a more specific focus on practical skills such as classroom management and inclusive teaching practices.*
Keywords: *pedagogical challenges, preservice teachers, professional competence of teachers, work-based learning.*

Introduction

Special attention should be provided to new teachers in order to prevent them from experiencing overload and the risk of professional burnout while they have just begun their careers. In the educational environment of the 21st century, schools and all teachers confront many obstacles. The active practice of students in educational institutions, studies based on the work environment, modelling and analysis of situations should therefore receive a great deal of attention in teacher education programmes. This is done to prepare students as effectively as possible for the ever-changing educational environment, the potential hurdles that may occur, the solutions to those challenges, and the various types of situations that

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may arise during the learning process at school. According to Ward and McCotter (2004), students enrolled in teacher education programmes ought to be given the chance to meaningfully analyse their practice and circumstances that they believe to be problematic.

This research explores prospective teachers' perspectives on the pedagogical challenges they face during their work-based learning experiences in teacher education programs. In addition, this study seeks to investigate the effects of these pedagogical challenges on prospective teachers' professional development and teaching efficacy. Through this comprehensive analysis, the research aspires to formulate targeted recommendations. These suggestions are intended to enable teacher education programs to strengthen their support systems, improving the ability of future teachers to overcome these problems and promoting their professional development more effectively.

To achieve the aim and tasks outlined above, the study will address the following research questions: What pedagogical challenges do prospective teachers identify as significant during their work-based learning experiences? How do prospective teachers perceive their readiness to tackle these pedagogical challenges within their instructional practices? How do the identified pedagogical challenges affect prospective teachers' professional development and teaching efficacy? What specific strategies and improvements do prospective teachers suggest for teacher education programs to better prepare them for addressing these challenges? By addressing these research questions, the study aims to contribute valuable insights into the preparation and support of prospective teachers, ultimately enhancing the quality of education delivered in classrooms.

Literature review

Society expects new teachers to be fully prepared for practical work at school after graduation. It is indicated that new teachers have good theoretical knowledge, but they lack the readiness to solve real pedagogical problems to overcome challenges in the dynamic and changing educational environment (Newberry & Allsop, 2017; Smets & Struyven, 2020; Karlberg, & Bezzina, 2022; Ndebele et al., 2023). Teacher education programs play a significant role in building the professional competence of new teachers in order to develop the skills necessary for effective teacher activity in school (Sandholtz, 2011; Caena, 2014; Barak, 2017; Āboltiņa, et al., 2024). During the study process, during pedagogical practice, and in work-based studies, future teachers have the opportunity to see real problems in school life and offer solutions to them that help to overcome the gap between theory and practice (Kennedy, 2016; Yuan, & Lee, 2016; European Commission, 2017; Šūmane, & Āboltiņa, 2023, Hamaidi, et.al., 2014). Teacher education aims to acquire the necessary knowledge in practice, so that a professional teacher can implement effective learning.

One of the requirements of the modern educational environment is the transition to the competence-based approach in education, which takes place at all levels of education, including teacher education (Makovec, 2018; Šteinberga & Kazāka, 2018; Mulder, 2019). The teacher's professional competence is a process-oriented concept. It means that the professional has basic theoretical knowledge about every subject of the educational content, practical skills, and certain attitudes and values (Caena, 2014). A teacher's professional competence determines his or her readiness and ability to perform professional activities optimally and responsibly in the changing social and professional environment (Hsieh, 2016; Lāma et al., 2023); critical thinking is an essential component of it (Bartolomé, 2004; Lithoxoidou, & Georgiadou, 2023). The ability to think critically for future teachers is included in the study process, as it will help to build their problem-solving, analysis, and understanding skills (Bartolomé, 2004). A critical attitude towards professional practice and innovations based on theory and professional dialogue is a basic skill of a teacher's professional competence. A teacher is a reflective agent capable of developing professional thinking and discourse about contextual issues and experiences (Caena, 2014). The study process based on critical constructivism promotes socially transforming, self-determined learning, which is aimed at improving the student's critical judgement and interest in the realisation of social changes (Rubene, 2006; Pnevmatikos et al., 2023)

In the study process, critical thinking strategies and tasks are used for solving challenges seen in school practice: analysis of theoretical questions, situational research in school practice, and solutions based on theory and practice. When analysing problem situations, obstacles to achieving the goal are analysed, hypotheses are put forward, and solutions are chosen; in practice-based studies, it is possible to implement them and assess to what extent the goal has been achieved (Cruickshank, 1986; Bartolomé, 2004).

In today's educational environment, when teachers are challenged daily to develop new, effective approaches to teaching practice, the teacher becomes a designer (Norton & Hathaway, 2015; Henriksen, & Richardson, 2017). D. Laurillard claims that teaching in the 21st century is a science of design (Laurillard, 2012). The concept of design thinking is useful in the everyday life of educators to solve pedagogical problems strategically and systematically. Design thinking is based on formulating and solving complex problems through an analytical and creative process (Calavia et al., 2023). Therefore, teacher preparation programs must use the approach of design disciplines (design principles, design processes, technology affordances, design patterns, and design-based research), where prospective teachers are involved in identifying practical problems, theoretical literature analysis, information selection, assessing its relevance to the situation, developing solutions to the problem, and prototype testing (Norton & Hathaway, 2015; Henriksen, & Richardson, 2017; Calavia et al., 2023).

In work-based study programs, it is also possible to prototype the proposed solutions, improve them, and implement the most effective approach in practice. Teachers who use a designer's approach to solving problems take on bigger and more complex challenges, increasing teachers' curiosity and creative activity in practice (Lockwood, 2010), significantly improving the teacher's effectiveness in overcoming challenges. To prepare university students for the work environment, developing their professional autonomy is necessary, reducing the gap between students' theoretical learning and practical professional activity (Oļesika & Rubene, 2023).

The practicums, practice at school, and work-based studies included in the study programs of future teachers ensure the development of knowledge, skills, and competencies of future teachers according to the real needs of the work environment (Margevica-Grinberga & Odina, 2021; Ndebele et al., 2023). Research on the challenges of future and new teachers in pedagogical work says that the most important challenges of new teachers are related to promoting students' motivation, improving learning, and thinking skills, technology use, inclusive education, and classroom management (Hurlbut & Tunks, 2016; Sujadi, et.al., 2019; Ray et.al, 2023). Developing the habits of thinking and acting related to the design approach to problem-solving can help new teachers become more flexible in assessing and dealing with challenges, better adapting to the profession.

Methodology

The study utilized narrative content analysis, drawing upon the foundational work of researchers such as Riessman (2008) and Lieblich, Tuval-Mashiach, and Zilber (1998), who have significantly contributed to the narrative analysis field. This approach is particularly suited for exploring individuals' intricate emotions and perspectives, offering deep insights into their personal and professional challenges. The research examined the experiences and viewpoints of 67 students currently enrolled in teacher education programs, employing initial thematic coding to distill key themes from their narratives. Narrative data were collected from the participants, focusing on their reflections regarding pedagogical challenges encountered during work-based learning experiences. The analysis of the data was carried out through NVivo 14. Initial thematic coding was applied to the collected narratives to identify key themes related to pedagogical challenges and potential solutions. This process involved a detailed examination of the narrative texts, facilitating the extracting and categorizing of significant themes and patterns within the data. The identified themes covered a broad spectrum of issues, including classroom management difficulties, diverse student literacy levels, concerns over national educational performance, and the necessity for effective teaching strategies to enhance literacy and reading skills. As delineated by Braun and Clarke (2006), this coding process entails a meticulous examination and organization of

data to unearth patterns and themes emerging from the narratives. In alignment with Saldaña's (2009) emphasis on the importance of iterative coding for refining themes and ensuring analytical depth, the study conducted further analysis to refine the initial codes. This involved associating specific quotes from the narratives with refined codes, thereby enriching the understanding of the challenges described by prospective teachers. This methodological approach enabled a comprehensive exploration of prospective teachers' perspectives, illuminating the complexities of their work-based learning experiences and the consequent implications for teacher education programs. Thus, narrative content analysis serves as a pivotal foundation for generating insights into the pedagogical challenges faced by future educators and identifying potential strategies for addressing these issues within teacher education courses.

The data is finally organised into five main themes: discipline, inclusive education, motivation to learn, literacy, and engagement. Within these themes, there are a total of 24 codes and 43 sub-codes. (See Table 1).

Table 1 ***Overview of Pedagogical Challenges Identified by Preservice Teachers, Divided into Themes, Codes, and Subcodes*** *(made by Authors)*

Main themes (Frequency)	**Codes**	**Sub-codes (Frequency)**
Discipline (n=19)	Classroom management Self-discipline Significance of pedagogy	Anxiety (n=5) High noise level (n=3) Disobedience (n=3) Healthy and productive learning (n=2) Classroom management strategies (n=11) Lack of motivation (n=7) Social factors (n=4) Adolescent age (n=2) Mentor program (n=3) Cooperation (n=6)
Inclusive education (n=17)	Differentiation Special needs Minorities Teacher and curriculum effectiveness	Learning styles and abilities (n=9) Support system (n=8) Large number of students in the class (n=5) Parental involvement (n=4) Information technologies (n=5) Resources (n=8) Personalized learning (n=2)
Motivation to learn (n=15)	Motivation to learn mathematics Co-responsibility Teacher's personality Creativity Motivation through cooperation	Learning materials (n=8) Teaching methods (n=6) Self-confidence (n=5) Belief in one's own abilities (n=2) Learning environment (n=7) Digital solutions (n=7) Creative classes and activities (n=3) Support systems (n=3)

		Self-directed learning (n=5) Supportive language (n=2)
Literacy (n=9)	Reading aloud Reading speed Reading comprehension Reading Reading Difficulties Writing Literacy level differences	Strategies/methods (n=7) Regularity (n=5) Dysgraphia (n=1)
Engagement (n=7)	Learning environment Learning habits Active learning Involvement Teaching-learning environment	Gamification (n=2) Homework (n=2) Teaching methods (n=7) Planning (n=3) Evaluation criteria (n=2) Group work (n=5) Technology-enriched learning environment (n=4) Supportive environment (n=6) Noise (n=3) Optimal number of students in a class (n=3) Communication-friendly classroom (n=2) Breaks (n=2) Acoustics and ergonomics (n=1)

Results

The narrative content analysis of 67 students who are currently enrolled in teacher education programs revealed five main themes, each accompanied by illustrative quotes from the participants, which elucidate the depth and variety of pedagogical challenges faced by prospective teachers, especially in discipline, inclusive education, motivation to learn, literacy, and engagement. The five main themes represented the prospective teacher's ideas about the importance of pedagogy and the challenges and opportunities their students face.

The discipline emerged as a significant challenge, as prospective teachers struggled to maintain discipline in the classroom and create a favorable learning environment. The data highlights instances of anxiety, high noise levels, and disobedience among students. This theme underlines the necessity of using effective classroom management strategies to successfully handle behavioural problems and create an environment of self-control and mutual respect.

Inclusive education was another critical area of concern. The findings reveal the difficulties in implementing differentiation strategies and addressing the needs of special needs students and minorities. Challenges such as managing large class

sizes, ensuring parental involvement, and leveraging digital technologies for personalized learning point to the need for strong support systems and resources for teachers to effectively address the diverse needs of their students.

The motivation to learn theme examines the factors influencing students' engagement and enthusiasm towards learning. Key factors identified include the teacher's personality, the use of creative and cooperative learning strategies, and the integration of digital solutions. This theme emphasizes the importance of fostering a positive learning environment that encourages student participation and self-directed learning.

Literacy challenges encompass difficulties related to reading aloud, comprehension, and writing. Prospective teachers reported varied student literacy levels, highlighting the need for tailored instructional approaches to improve reading and writing skills. This theme points to the critical role of literacy in academic success and the necessity for targeted interventions to address gaps in students' abilities.

Upon analysing the narratives, it was found that the majority of the respondents were in favour of pedagogical teaching methods. A research study by Itow (2020) stated that pedagogy is important because it enables teachers to establish better teaching practices for students in their classrooms. It allows them to understand better how students learn by fulfilling their learning needs. As a result, these practices improve teaching experiences and the student's learning abilities. With regards to the response by (R-12), similar viewpoints were achieved:

"Regular work with the text (literacy), promoting the improvement of reading skills and understanding of the read text" (R-12)

Another respondent mentioned,

"As a result of the pilot processes of the activities described above, the improvement of the student's reading skills and the overall growth of the quality of the learning processes are noticeable. This resulted in the improvement of individual students and class's average results in tests during the first semester" (R35)

The above responses have indicated that the teachers have also experienced better learning outcomes after implementing pedagogical practices. In contrast, the study by Nurdiana et al. (2023) suggested that educators' pedagogical analysis is a crucial tool for identifying areas of improvement, facilitating collaboration, assessing learning outcomes, and enhancing accountability. Regarding response 12, it was found that teachers believe that the use of pedagogical practices has potential outcomes in improving the reading and understanding of the students. The US Department of Education has indicated a relationship between pedagogy and the concept of discipline and mentioned that pedagogy is an interdisciplinary approach that functions as a science or theory for teachers to bring academic discipline and practice (Wyse, 2020). Similarly, respondent 5 mentioned during their interview that,

"And if the means, i.e., our work brings joy and satisfaction, then it is nice to see purposeful and knowledgeable students next to you. Discipline in the classroom" (R-5)

Another respondent has shared their viewpoint that,

"In general, I assessed the class as very undisciplined, initially with a provocative attitude towards me" (R-54)

The above-presented responses show two different perspectives. Response 5 showed that with the implementation of the pedagogical practices in the classroom, the students have shown a more disciplined attitude in their classrooms. Response 54 showed that the teachers had found an undisciplined classroom environment, indicating the need to improve teaching methods and utilize a pedagogical teaching environment. In contrast, according to the study by Ball (2023), discipline-specific pedagogy is a method and teaching practice that encompasses discipline-specific knowledge and engaging students to bring improvements in their learning attitudes. In conclusion to overall responses, it is found that the participants were satisfied with using pedagogical teaching practices to improve students' learning abilities and create a disciplined classroom environment. It further indicated that teachers were more satisfied with these teaching approaches and have not stated any severe challenges in adopting them.

The engagement theme focuses on strategies to enhance student involvement in the learning process. Factors such as the physical learning environment, active learning techniques, and the use of gamification and technology-enriched activities positively impacted student engagement. This theme suggests that adopting innovative teaching methods and creating a dynamic, interactive classroom atmosphere can significantly improve student learning outcomes.

Regarding the Glossary of Education Reform, students' engagement is defined as the degree of attention, optimism, interest, and passion that shows their willingness to learn (Barkley & Major, 2020). In addition, a study by Bowden et al. (2021) stated that students' engagement in their learning and education is a positive approach to enhancing their educational experiences. On the other hand, regarding the student's engagement in the classroom and the pedagogical practices, respondent 42 stated,

"By promoting positive attitudes and camaraderie in the classroom environment, the Drake method strives to create a safe and supportive environment where students can feel comfortable and included" (R-42)

Also, respondent 3 stated,

"Teachers can promote positive attitude and motivation by using supportive language and invitations such as "I believe in you", "you can do it". Foster self-confidence and self-motivation so that students feel competent and ready to learn" (R-3)

The responses indicated that the use of pedagogical teaching practices by the teachers has resulted in positive relationships among the students in the classroom

and with teachers and their families. Respondent 42 promoted the use of the Drake method for better student outcomes. The study by McBrady (2022) similarly stated that the Drake method enables educators to recognize the gaps between expert thinking and novice learning by uncovering tacit knowledge. The main purpose of these contemplative pedagogies is to involve new teaching methods for cultivating deepened awareness, valuable insights, and concentration toward lessons (Chapman, 2021). These methods have shown improved engagement of the students in the classroom and their enhanced participation in learning. The respondent 28 stated,

"Student engagement can be divided into three interrelated forms: behavioural, emotional and cognitive" (R-28)

The above-mentioned response has shown that the pedagogical practices by the teachers resulted in improving students' engagement along with their learning behaviour, and cognitive and emotional skills. Similarly, respondent 19 also quoted that,

"Also, students' critical thinking and problem-solving ability develop. Group learning can increase motivation and engagement" (R-19)

It means that there is a positive association between pedagogy and students' learning, indicating that the teachers have found the least or no challenges in involving students and changing their teaching methods from traditional to pedagogical practices.

This theme is significant in addressing the main objectives of this research as it pays attention to the issues and challenges associated with the pedagogical teaching approaches. Respondent 10 stated that:

"Technology-enriched learning environment in chemistry classes to improve student motivation.

The low level of motivation of students in chemistry lessons. Many students are not interested in studying chemistry because the exam in this subject is not mandatory, the stories heard about the subject of chemistry are not enticing, and the public perception of chemistry is depressing." (R-10)

This response has indicated two main aspects: there is a need for advanced teaching practices as the students find no interest in participating in learning in the chemistry classroom. Likewise, another response showed:

There are several common causes of the problem, and their sequence changes over time, depending on the priorities of the given moment, both in learning processes, in the stages of educational reform, and in everyday life in families and society (R-63)

It also validated that adopting new approaches is challenging for the students and needs better approaches to bring sustainability to the classroom environment. Concerning the student's understanding, respondent 1 stated:

It is a potential disaster for European society because children who, after leaving school, are unable to understand even a simple written text properly, are

not only at risk of unemployment but are also not allowed to study further." - Androulla Vassiliou, EU Education, Culture, Commissioner for Multilingualism and Youth Affairs. (R-27)

Another respondent stated:

"Pupils with attention deficit hyperactivity disorder (ADHD) often have difficulty understanding what is assigned to them in class. When you have to listen to a verbally explained task, the classroom environment is not the friendliest for a child with UDHS, because various external stimuli are constantly offered that distract from what the teacher is saying" (R-27)

The overall outcomes of these responses have indicated the need of improvement in the pedagogical curriculum as the changes in the teaching methods cause challenges for students to learn. Secondly, it also highlighted that the psychologically affected individuals find more challenges in learning and understanding the concepts than the other individuals in the classroom.

Analysing the overlap and repetition of codes across the themes of Discipline, Inclusive Education, Motivation to Learn, Literacy, and Engagement reveals several key areas of intersection that highlight the interconnected nature of pedagogical challenges in work-based learning environments. Key insights include the universal importance of a supportive learning environment, the critical role of differentiated and innovative teaching methods, the necessity of strong support systems for both teachers and learners and the transformative potential of technology in education. This interconnection of themes illustrates the complexity of teaching and the need for comprehensive training that equips prospective teachers with a diverse skill set to navigate and address these challenges effectively.

Overall, the responses and the findings of the above themes, it is found that the use of the pedagogical practices was found much more valuable as per the perceptions of the teachers, but the responses have further highlighted the need for improvement by referring to the challenges faced by the students, it is expected that the better implementation procedures and planning will establish effective classroom environment and the progressive learning growth of the students.

Conclusions

The study set out to explore the pedagogical challenges identified by prospective teachers during their work-based learning experiences, assess their readiness to address these challenges, investigate the impact of these challenges on their professional development and teaching efficacy, and suggest strategies for teacher education programs to prepare them better. Drawing on the narrative content analysis of 67 teacher education students, the research revealed critical insights that address the research questions in a thorough manner. Prospective teachers identified significant challenges across five main themes: Discipline, Inclusive Education, Motivation to Learn, Literacy, and Engagement. These challenges

highlight the complex and multiple aspects of teaching, including managing classroom behaviour, responding to different learning styles, engaging students actively, and overcoming difficulties with reading and writing. The results demonstrate the complex landscape of educational challenges that prospective teachers face, requiring a holistic and multi-dimensional approach to teacher education. The narratives revealed a nuanced understanding of pedagogical issues but also indicated a gap in prospective teachers' readiness to address these challenges effectively. While there is a general enthusiasm for embracing their future roles, there is a clear need for enhanced practical training and support to navigate the identified challenges confidently. This gap underscores the importance of aligning teacher education curricula more closely with the realities of classroom teaching. The pedagogical challenges identified profoundly impact prospective teachers' professional development and teaching efficacy. The study highlights how these challenges, if unaddressed, can hinder the development of essential teaching competencies and affect the ability of future teachers to foster effective learning environments. Addressing these challenges through targeted interventions within teacher education programs is crucial for building resilience and adaptability among prospective teachers. The study suggests several strategies for teacher education programs to prepare prospective teachers better. These include a stronger focus on practical skills development, particularly in classroom management and inclusive teaching practices; enhanced technology integration in teaching and learning; and establishing strong support systems for prospective teachers. Emphasizing experiential learning opportunities, such as work-based placements, and fostering a culture of reflective practice are also recommended to bridge the gap between theory and practice. By implementing the suggested strategies, teacher education programs can enhance the quality of education delivery in classrooms and better equip future teachers for the complexities of their profession. This study emphasises the significance of a cooperative and iterative approach to teacher education, where prospective teachers' input is consistently utilized to improve the curriculum. This ensures that the curriculum remains adaptable to the changing requirements of the education sector.

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