

# Structural Dimensions of Pre-Service Teacher Preparation for Rural Multi-grade Schooling

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## ABSTRACT

This study addresses a critical yet underexplored issue in rural education: the persistence of multi-grade schooling challenges the dominant competency-based model of teacher readiness by requiring teachers to operate in complex, structurally constrained environments. Despite a growing body of research on teacher preparation, existing studies largely conceptualize readiness as an individual competence, overlooking its structural and institutional dimensions. This study aims to reconceptualize teacher readiness by examining prospective primary school teachers' preparedness for rural multi-grade schooling as a structurally mediated phenomenon. A qualitative descriptive research design was employed, drawing on written reflections of 70 final-year pre-service primary school teachers in Türkiye. The data were analyzed using thematic analysis to identify recurring patterns related to perceptions of professional readiness. The findings reveal that teacher readiness is shaped by the interaction of institutional and contextual structures, manifested through four interrelated dimensions: limited context-specific pedagogical preparation; expanded professional and administrative responsibilities; instructional fragmentation and time management constraints; and contextual limitations in rural schooling environments. Rather than representing isolated challenges, these dimensions collectively indicate that readiness is produced through systemic misalignments between teacher education programs and the realities of rural schooling. This study contributes to the literature by reconceptualizing teacher readiness as an institutional alignment rather than an individual competency deficit, and by highlighting the need for structurally responsive teacher education programs grounded in the complexities of rural and multi-grade school contexts.

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## 1. INTRODUCTION

Persistent inequalities in rural education remain one of the most enduring obstacles to achieving global educational equity, particularly in terms of teacher distribution, teaching quality, and professional sustainability in geographically marginalized areas. Despite decades of policy reforms aimed at centralizing and standardizing education provision, multi-grade classrooms continue to function as a structural necessity rather than a temporary pedagogical arrangement in many countries, including Turkey. These classrooms emerge primarily in low-density rural communities where demographic decline, geographic isolation, and limited institutional resources make conventional single-grade schools administratively and economically unsustainable (Little, 2006; Jodhani et al., 2025; Ares-Ferreirós et al., 2025). Cornish and Taole (2021) and Schafft (2016) assert that multi-grade schools remain strongly associated with educational disadvantage,

teacher turnover, and unequal access to professional support, particularly in rural systems with weak institutional capacity.

In Turkey, multi-grade school systems remain a hallmark of most primary education in rural areas, particularly in remote areas where school consolidation is impractical. Teachers assigned to these schools are expected to simultaneously manage multiple grade levels, diverse curricula, classroom administration, community relations, and, often, school leadership responsibilities within the same institutional space (Sağ & Sezer, 2012; İnan & Bekler, 2014). These professional demands far exceed those typically encountered in conventional schools and require preparedness that goes beyond mere pedagogical competency. However, teacher preparation programs in many contexts continue to prioritize general teaching competency while providing limited systematic preparation for the institutional complexities of multi-grade teaching in rural settings (Chung, 2012; Azano & Stewart, 2015; Hargreaves & Fullan, 2015). This mismatch creates a persistent unease between teacher education and the practical realities of rural schools.

Studies conducted by Tschannen-Moran and Hoy (2001), Bandura (1997), and Veenman (1995) on teacher readiness to teach at various grade levels largely conceptualize readiness through an individualistic lens, emphasizing teacher self-efficacy, pedagogical beliefs, attitudes, classroom management skills, and professional confidence. While their studies provide information on teacher behavior and instructional adaptation, they tend to reduce readiness to a matter of personal competence. This means that their studies fail to adequately explain why teachers with similar qualifications often experience significantly different levels of professional adaptation depending on their institutional placement, school conditions, and structural support systems. Research by Azano and Stewart (2015) and Tieken and San Antonio (2016) suggests that teacher effectiveness, retention, and professional resilience in rural areas are significantly influenced by contextual and organizational conditions rather than individual abilities alone.

This demonstrates epistemological limitations, as outlined by Kalaoja and Pietarinen (2009) and Recla and Potane (2023). First, teacher preparedness is often treated as an internal attribute rather than a relational, context-dependent construct. Second, methodologically, the dominant reliance on perception-based surveys and individual-level analyses has limited a more in-depth examination of the systemic influences embedded in the structures of teacher education and rural school institutions. Third, rural multi-grade schools themselves are often under-analyzed theoretically as organizational environments, despite having distinct patterns of governance, professional expectations, and community relations. Consequently, an analytical framework that explains how institutional preparation and structural constraints interact to shape professional preparedness for teaching in rural multi-grade schools is lacking.

This shortcoming is problematic because readiness to teach in mixed-gender schools in rural areas is fundamentally ecological, not solely individual. Drawing on Bronfenbrenner's (1979) ecological systems theory, institutional theory, and the concept of professional capital (Hargreaves & Fullan, 2012), this study conceptualizes professional readiness as a structurally mediated construct produced through the interaction of individual capacities, institutional preparation, and systemic educational conditions. From this perspective, teacher readiness is not simply the result of pedagogical training or psychological readiness, but rather the product of layered influences operating across micro-level professional competencies, meso-level institutional designs, and macro-level policy structures. Research evidence from Gürhan (2025) in teacher education in Turkey further supports this argument by demonstrating that prospective teachers' professional perspectives are strongly influenced by broader socio-cultural and institutional conditions rather than by disciplinary knowledge alone.

The case of mixed-gender schools in rural areas highlights the urgency of this structural perspective. Teachers are required to simultaneously differentiate instruction, manage administratively, and integrate socially in communities that often lack adequate infrastructure and weak institutional support. Under such conditions, framing readiness solely as a matter of teacher competency risks obscuring systemic inequalities embedded in teacher preparation and school assignment processes. What appears to be "teacher unpreparedness" may actually reflect a structural mismatch between pre-service education and professional realities in rural areas. Therefore, the issue is not simply whether teachers are prepared, but how the education system produces or fails to produce the conditions for readiness.

Unlike previous studies that position readiness primarily as an individual competency, this study argues that professional readiness in rural multi-grade schools must be reconceptualized as a structurally mediated phenomenon. This study introduces a structural readiness framework that shifts analytical attention from individual deficiencies to the institutional arrangements embedded in teacher education and the rural school system. Such a reconceptualization is theoretically important because it challenges the dominant competency-based model of teacher readiness and broadens current understandings of professional readiness in unequal education systems.

Therefore, this study aims to examine how structural factors in pre-service teacher education and the rural school environment shape prospective teachers' professional readiness to teach in mixed-grade

classrooms in Turkey. Specifically, this study investigates: (a) how teacher education programs prepare pre-service teachers for the realities of blended classrooms, and (b) how pre-service teachers interpret their preparedness in relation to the institutional constraints and contextual demands of rural schools. This study makes two primary contributions. Conceptually, it develops a theory-driven reconceptualization of teacher preparedness as a structurally mediated professional condition. Empirically, it provides qualitative evidence on how institutional preparation and contextual constraints shape perceptions of preparedness in blended classroom education in rural settings. In doing so, this study contributes to the ongoing international debate on teacher education, rural education, and educational equity by highlighting the need for systemic alignment between teacher preparation programs and the complex realities of underserved educational environments.

## 2. RESEARCH METHOD

### 2.1 Research Design

This study was designed as a qualitative descriptive inquiry to explore how pre-service elementary school teachers interpret their professional readiness for multi-grade schools in rural Turkey within a structurally shaped context. This aligns with Creswell and Poth (2018), who stated that a qualitative descriptive design was used to provide a comprehensive and context-sensitive understanding of participants' experiences without imposing highly abstract theoretical interpretations. From an epistemological perspective, this study is grounded in an interpretivist paradigm, which assumes that professional readiness is not an objective or fixed attribute but a socially and contextually constructed phenomenon. In line with this study's theoretical framework, readiness is conceptualized as a structurally mediated construct that emerges from the interaction between institutional preparation, contextual exposure, and systemic constraints. Although this study focuses on the institutional setting of a rural multi-grade school in Turkey, it does not aim to develop a limited, in-depth case narrative, but rather to identify recurring structural patterns across participants' experiences.

### 2.2 Participants and Sampling

This study was conducted at a public university in Turkey during the 2023–2024 academic year. Participants were 70 final-year elementary school teacher candidates enrolled in a teacher education program. A purposive sampling strategy was used to ensure that participants had relevant experience and knowledge related to the research focus. The inclusion criteria were as follows: (a) enrolled in the final year of an elementary school teacher education program, (b) having completed a course related to multi-grade teaching, and (c) having previous experience in a rural or multi-grade school setting through practicum or field experience. The participant group included both female and male teacher candidates, typically in their early to mid-20s, reflecting the demographic characteristics of teacher education programs in Turkey. All participants had completed the teaching practicum component, and most had observed or experienced a rural school setting.

The sample size was determined based on the principle of informative power, meaning that a larger sample size is not always necessary when the study has a focused objective, a relatively homogeneous participant group, and rich qualitative data. The 70 written reflections provided sufficient depth and variety to identify recurring structural patterns and achieve analytical saturation.

### 2.3 Data Collection Process

Data were collected through written reflection forms administered during the final weeks of the academic semester as part of a regular undergraduate course. Written reflections were preferred because they allowed participants to articulate their experiences independently, minimize the interviewer's presence, and provide more reflective, thoughtful responses. Participants were asked to answer the following open-ended question: *“How would you evaluate your professional readiness to teach in a rural multilevel classroom based on your pre-service education experience? Describe your expectations, concerns, and perceived competencies.”* The data collection process took place in a classroom setting under the supervision of the course instructor. Participants were given approximately 30–40 minutes to complete their written responses. Participation was voluntary, and students were informed that their responses would be used solely for research purposes and would not influence their course evaluation. To minimize response bias, participants were assured of anonymity and encouraged to provide honest and critical reflections. No identifying information was collected, and incomplete or irrelevant responses were excluded from the analysis.

### 2.4 Data Analysis

Data were analyzed using thematic analysis following the framework proposed by Braun and Clarke (2006). This analysis was conducted through five systematic and iterative processes. First, all written responses were read multiple times to familiarize themselves with the data. Second, initial codes were

generated by identifying meaningful units related to professional readiness. The coding process was primarily inductive, allowing themes to emerge from the data while still considering the study's structural perspective. Third, codes were grouped into broader categories, and potential themes were developed by examining patterns across participant responses. Fourth, themes were reviewed and refined to ensure internal coherence and clear distinctions between themes. Fifth, themes were defined and named in relation to the structural dimensions of professional readiness.

To enhance the trustworthiness of this study, four strategies were implemented. First, discussions with an independent researcher reviewed the coding process and thematic structure. Second, an audit trail was maintained to document coding decisions and theme development. Third, the researchers engaged in reflection, acknowledging their positionality and potential influence on data interpretation. Fourth, inter-rater agreement was discussed, and consensus was reached on the final themes.

## 2.5 Ethical Considerations

This study was conducted in accordance with internationally recognized ethical research principles. Participation was voluntary, and informed consent was obtained from all participants prior to data collection. All data were collected anonymously, and no personal or sensitive information was recorded. In accordance with institutional research guidelines, this study did not require formal ethics committee approval because it involved minimal risks and did not include any identifiable interventions or data. However, the study adhered to the ethical standards of the host institution and adhered to the principles of confidentiality, voluntary participation, and responsible data handling.

## 3. RESULTS

This section presents the findings derived from the thematic analysis of prospective primary school teachers' written reflections. The analysis revealed four overarching themes related to professional readiness for rural multi-grade schooling. To enhance analytical depth, each theme is further elaborated through subthemes and supported by representative participant quotations.

Table 1. Overview of Themes, Subthemes, and Representative Evidence

Theme	Subthemes	Representative Quotations
Context-specific pedagogical preparedness	Lack of practical experience; Difficulty managing multiple levels	<i>"We learned theories, but I do not know how to teach three grades at the same time."</i>
Expansion of professional roles	Administrative burden; Role overload	<i>"In rural schools, the teacher is also the principal, clerk, and even caretaker."</i>
Instructional fragmentation	Time division; Loss of instructional continuity	<i>"While I teach one group, others are left waiting."</i>
Contextual constraints	Resource limitations; Communication challenges	<i>"There may be no materials, and communication with parents can be difficult."</i>

### 3.1 Gaps in Context-Specific Pedagogical Preparedness

The first major theme highlights the perceived inadequacy of teacher education programs in preparing prospective teachers for the pedagogical demands of multi-grade classrooms. This theme comprises two subdimensions: a lack of practical exposure and instructional uncertainty in managing multiple grade levels. Participants consistently emphasized that their training was largely theoretical, with limited opportunities to engage in authentic multi-grade teaching practices:

*"We learned theories about teaching, but I have no idea how to handle different grade levels simultaneously."* (P12)

*"Our courses did not prepare us for real classroom complexity, especially in rural schools."* (P27).

This perceived gap appears to emerge from the structural design of teacher education programs, which are predominantly oriented toward single-grade classroom models. The absence of structured practicum experiences in multi-grade settings leads to what can be described as institutionally produced pedagogical uncertainty. In this sense, the findings suggest that preparedness is not simply lacking at the individual level but is systematically underdeveloped through program design.

### 3.2 Expansion of Professional Roles and Role Overload

The second theme reflects participants' expectations regarding the expansion of professional roles in rural multi-grade schools. Two subthemes emerged: administrative responsibilities and role multiplicity. Participants described rural teaching as a role that extends beyond instructional duties:

*"In a rural school, the teacher is not only a teacher but also a principal, secretary, and sometimes even responsible for maintenance."* (P08)

*"We are expected to handle everything alone, which is overwhelming."* (P41)

These perceptions indicate that teacher readiness is shaped by anticipated institutional demands rather than individual teaching competencies alone. The expectation of role multiplicity appears to stem from the structural organization of rural schools, particularly single-teacher settings where institutional support is limited. Therefore, the feeling of unpreparedness can be interpreted as a response to organizational structures that distribute multiple roles onto a single individual.

### 3.3 Instructional Fragmentation and Time Allocation Constraints

The third theme captures the challenges associated with organizing instruction across multiple grade levels. This theme comprises two subthemes: time-allocation difficulties and fragmentation of instructional processes. Participants frequently expressed concerns about managing time effectively:

*"When I focus on one grade, the others are left waiting, which interrupts the flow of teaching."* (P19)

*"It seems impossible to give equal attention to all students."* (P33)

These concerns reflect the structural constraints inherent in multi-grade classroom organization. Instructional fragmentation is not merely a result of inadequate teacher skills but rather a consequence of institutionally structured classroom arrangements. The findings suggest that time management difficulties stem from systemic conditions that require simultaneous instruction across different learning levels, thereby limiting pedagogical coherence.

### 3.4 Contextual and Environmental Constraints

The final theme highlights the influence of contextual factors on professional readiness. This theme consists of resource limitations and community-related challenges. Participants emphasized infrastructural and environmental difficulties:

*"There may be very limited teaching materials, and sometimes even basic facilities are missing."* (P22)

*"Communication with parents in rural areas can be difficult due to cultural differences."* (P56)

These findings indicate that readiness is shaped not only by teacher education but also by the broader socio-economic and institutional context of rural schooling. Limited resources and weak institutional support structures contribute to a sense of professional vulnerability. In this regard, readiness can be understood as being contextually constrained and structurally conditioned, rather than individually determined.

### 3.5 Integrative Analytical Synthesis

Taken together, the findings reveal that prospective teachers' professional readiness for rural multi-grade schooling is not primarily perceived as a matter of individual competence, but as a condition shaped by multiple, interacting structural factors. Across all themes, a consistent pattern emerges: participants attribute their sense of unpreparedness to institutional design (teacher education programs), organizational structures (role expectations in rural schools), and contextual constraints (resource limitations and environmental conditions). This pattern suggests that professional readiness is institutionally mediated rather than individually constituted. The findings indicate that teacher education systems, school structures, and rural contexts collectively shape how readiness is experienced and interpreted. Therefore, understanding teacher readiness requires shifting the analytical focus from individual preparedness to the structural configurations that enable or constrain professional practice.

## 4. DISCUSSION

The findings demonstrate that readiness is not simply an attribute possessed by prospective teachers, but rather an emergent property shaped by the interaction between institutional design, organizational constraints, and contextual realities. Thus, this study directly challenges the dominant competency-based paradigm in teacher education, which tends to individualize responsibility for readiness while under-examining the structural conditions that produce or constrain it. This repositioning aligns with Biesta et al.

(2015) and Leijen et al. (2020), who emphasize the ecological and contextual nature of teacher agency and professional practice.

This study contributes to the recognition that the widely reported "lack of preparedness" for multi-grade teaching is not an incidental outcome, but a structurally generated condition. Unlike previous research that frames this issue as a lack of teacher knowledge, beliefs, or self-efficacy, the current findings demonstrate that teacher education programs systematically reproduce the dominant, urban-oriented, single-grade teaching model, thereby marginalizing multi-grade pedagogy in the formal curriculum. This institutional bias creates a mismatch between training and professional realities, effectively producing a structural readiness gap. These findings not only confirm but also challenge previous research on rural teacher preparation (Azano & Stewart, 2015; Schafft, 2016) by suggesting that the problem is not simply a lack of exposure but a deeper form of institutional reproduction that privileges certain forms of pedagogical legitimacy over others. From an ecological systems perspective, this reflects a persistent mismatch between the microsystem of teacher education and the ecosystem of rural school conditions, resulting in a systemic discontinuity in professional formation (Bronfenbrenner, 1979).

Furthermore, this study extends the existing literature by highlighting the structurally expanded nature of teacher roles in rural multi-grade schools. The findings indicate that pre-service teachers anticipate not only the complexity of teaching but also the accumulation of administrative, managerial, and socio-community responsibilities. This redistribution of institutional functions to individual teachers is not accidental but reflects an organizational response to resource scarcity and limited institutional capacity. These conditions increase demands on what Andy Hargreaves and Michael Fullan conceptualize as professional capital, specifically by taxing human capital and decision-making in the absence of adequate social and structural support. Contrary to dominant narratives that attribute teacher workload challenges to personal resilience or time management, this study demonstrates that workload is structurally embedded in the organizational logic of rural schools. These findings reinforce emerging evidence that teacher agency is contingently shaped by the institutional environment rather than solely by individual capacity (Biesta et al., 2015; Liu et al., 2021), thereby challenging reductionist interpretations of professional competence.

Another important insight concerns fragmented learning, further illustrating the structural nature of readiness. Participants' concerns about divided attention across grade levels reflect not only pedagogical difficulties but also systemic constraints imposed by multi-grade organizational structures. This finding challenges the prevailing assumption that the quality of learning in such contexts can be improved solely through enhanced pedagogical training. Instead, it reveals a structural contradiction: teachers are expected to maintain coherence in learning while operating within inherently fragmented temporal and curricular conditions. Consistent with recent findings in multi-grade education research (Hammond, 2022), this study suggests that such fragmentation is not a failure of teacher competence but a predictable outcome of organizational design. Thus, improving readiness requires not only pedagogical interventions but also a structural reconsideration of curriculum organization and time allocation in multi-grade settings.

The role of contextual constraints further strengthens the argument that readiness is structurally mediated and environmentally constrained. Limited access to resources, infrastructure deficiencies, and socio-cultural challenges are identified as critical factors shaping prospective teachers' perceptions of readiness. These findings extend previous research in rural education by demonstrating that readiness is not only institutionally generated but also contextually constrained (Biddle & Azano, 2016; Tieken & San Antonio, 2016). Even well-prepared teachers can experience a decline in readiness when structural and environmental conditions do not align with professional expectations. From an ecological perspective, these constraints operate at both the ecosystem and macrosystem levels, exerting indirect but powerful influences on teachers' professional experiences. This underscores the need to conceptualize readiness as a dynamic, context-sensitive construct rather than a stable individual trait.

Importantly, although this study is located in Turkey, its implications resonate beyond national boundaries, particularly for education systems across the Global South, where multi-grade schools and resource constraints are prevalent. The identified structural challenges of mismatch between teacher education and rural practice, role overload, and limited institutional support reflect patterns observed in diverse rural contexts worldwide (Schafft, 2016). Therefore, the structural readiness framework proposed in this study offers an analytical lens for examining teacher preparation in educational settings with similar constraints. By reframing readiness as a systemic issue rather than an individual deficiency, this study contributes to a growing body of literature advocating a more context-responsive and equity-oriented approach to teacher education.

This study makes a significant theoretical contribution by developing a structurally mediated model of professional readiness. By integrating ecological systems theory, institutional theory, and professional capital, the study goes beyond the dominant competency-based framework and introduces a multi-layered analytical perspective that captures the relational and systemic nature of teacher readiness. In doing so, the study not

only extends existing theory but also uncovers a critical blind spot in the literature: the persistent underestimation of the role of structural determinants in shaping professional capacity. This reconceptualization provides a foundation for future research to develop more comprehensive models of teacher development that account for institutional and contextual variability.

From a policy perspective, the findings point to the urgent need to realign teacher education programs with the structural realities of rural schools. This includes integrating multi-grade pedagogy into the core curriculum, designing context-responsive practicum experiences, and strengthening institutional support systems for teachers in rural practice settings. From a practical perspective, interventions aimed at improving teacher readiness must go beyond skill development to encompass organizational restructuring, workload redistribution, and improved resource provision. Without such systemic adjustments, efforts to improve teacher readiness will likely remain limited in their impact.

Despite its contributions, this study has several limitations. First, reliance on written reflections may not fully capture the depth and complexity of participants' experiences compared to in-depth interviews or observational methods. Second, the focus on a single institutional context may limit the generalizability of the findings. Third, participants' perceptions of readiness are anticipatory and may differ from actual teaching experiences in rural, multi-grade settings. Future research should adopt longitudinal and mixed-methods designs to examine how structurally mediated readiness develops over time and across different institutional and geographic contexts. Furthermore, further studies are needed to empirically test the structural readiness framework proposed in this study and explore its applicability across different educational systems.

## 5. CONCLUSION

This study advances a structural reconceptualization of pre-service teachers' professional readiness for rural multi-grade schools by demonstrating that this readiness is not an individual attribute but a systematically generated condition shaped by the interaction among teacher education design, school organizational structure, and broader contextual constraints. Drawing on empirical findings—specifically the lack of context-specific pedagogical preparation, the expansion of professional roles, the fragmentation of instruction across grade levels, and persistent resource constraints—the study reveals that what is commonly perceived as teacher "unpreparedness" is actually a predictable outcome of a structural mismatch between institutional preparation and the complex realities of rural schools. By integrating ecological, institutional, and professional capital perspectives, the study offers a multi-layered analytical framework that redefines readiness as a relational, structurally mediated phenomenon, thereby broadening current debates about teacher roles and professional practice. These findings underscore the need for systemic reforms, including the integration of specialized pedagogies for mixed-grade classrooms, the redesign of practice experiences to reflect authentic rural contexts, and the restructuring of institutional responsibilities in resource-constrained schools. Although located in Turkey, the identified structural patterns reflect broader dynamics across education systems, particularly in the Global South, where mixed-grade schools and institutional constraints persist. Ultimately, this study goes beyond incremental refinements by fundamentally reframing professional readiness as a systemic issue, providing a critical foundation for developing more equitable, context-responsive, and structurally aligned approaches to teacher education.

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