



Article

Teachers' Implementation of Inclusive Education in Rural Schools of Kazakhstan

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Abstract

Inclusive education has become an important component of educational reform in Kazakhstan, particularly through efforts to align national education policy with international principles of equity and access. However, implementation remains uneven between urban and rural schools. This study explores how teachers implement inclusive education practices in a rural secondary school in Northern Kazakhstan. A qualitative case study design was employed using semi-structured interviews with sixteen teachers working in inclusive classrooms. Data were analyzed through thematic analysis. The findings indicate that teachers demonstrate strong commitment to supporting students with diverse learning needs and regularly adapt instructional practices to promote classroom inclusion. At the same time, participants identified major challenges, including limited professional preparation, shortages of specialized support staff, insufficient instructional resources, and infrastructure constraints affecting rural schools. The findings further suggest that although inclusive education is increasingly emphasized within national educational policy, implementation in rural schools continues to be shaped by structural inequalities and unequal access to institutional support. The study contributes to the limited literature on inclusive education in Central Asia and highlights the importance of strengthening teacher professional development, institutional support systems, and rural educational infrastructure.

Keywords: inclusive education; Kazakhstan; teacher preparedness; qualitative research; special educational needs; rural education

Academic Editor: Geert Van Hove

Received: 5 May 2026

Revised: 25 June 2026

Accepted: 30 June 2026

Published: 8 July 2026

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1. Introduction

Inclusive education has become a central principle of contemporary educational reform, emphasizing the right of all learners to access quality education within mainstream educational environments regardless of disability, learning differences, or social background [1,2]. International frameworks such as the Salamanca Statement (1994) [2] and the United Nations Convention on the Rights of Persons with Disabilities (CRPD, 2006) [3] have encouraged countries to develop educational systems that promote participation, equity, accessibility, and educational opportunities for diverse learners. Within this rights-based framework, inclusive education is increasingly understood not merely as the

placement of students with disabilities in mainstream classrooms but as the creation of educational environments that support meaningful participation and learning for all students.

The global expansion of inclusive education has been accompanied by significant policy reforms across many countries. However, research consistently demonstrates that the successful implementation of inclusive education depends not only on legislative commitments but also on teacher preparedness, institutional support, specialist services, and the availability of educational resources [4,5]. Consequently, substantial differences often emerge between policy aspirations and classroom realities, particularly in educational systems undergoing structural transformation or facing resource constraints [6].

Kazakhstan represents an important context for examining these challenges. Following independence from the Soviet Union in 1991, the country initiated extensive educational reforms aimed at modernizing its education system and aligning national policies with international educational standards [7]. Inclusive education gradually became a central component of these reforms, particularly through the State Program for Education Development 2011–2020 and subsequent policy initiatives promoting equal educational opportunities for students with special educational needs (SEN) [8]. As a result, access to inclusive education has expanded considerably across the country over the past decade.

Despite these policy developments, the implementation of inclusive education in Kazakhstan remains uneven. Significant disparities continue to exist between urban and rural schools with regard to access to specialized personnel, teacher training opportunities, educational resources, and support services [6]. Rural schools often face shortages of psychologists, speech therapists, special educators, and other professionals who play important roles in supporting inclusive educational practice. Furthermore, disability education in many post-Soviet countries has historically been shaped by the Soviet tradition of defectology, which viewed disability primarily through medical and deficit-oriented perspectives and often promoted segregated educational provision rather than inclusive participation. Although Kazakhstan has increasingly adopted inclusive education policies, elements of this historical legacy continue to influence educational practices and institutional structures. These challenges reflect broader inequalities that continue to influence many post-Soviet educational systems, where reforms promoting inclusion have frequently progressed more rapidly at the policy level than the institutional structures required to support their implementation [9,10]. Consequently, schools may be expected to adopt inclusive practices despite limited professional, organizational, and material support.

Teachers occupy a central position in addressing these challenges. Across Kazakhstan, teachers are expected to adapt curricula, differentiate instruction, and support students with diverse educational needs. However, these responsibilities are often intensified in rural schools, where access to specialist support services and professional development opportunities may be more limited [11]. Previous research has consistently demonstrated that teacher preparedness, professional learning, and institutional support strongly influence the quality and effectiveness of inclusive education implementation [12,13]. Nevertheless, much of the existing literature has focused on policy development, educational reform, and system-level issues rather than the everyday experiences of teachers responsible for implementing inclusion within classroom settings.

This gap is particularly evident within Central Asian and post-Soviet contexts, where empirical research examining teachers' experiences of inclusive education remains relatively limited [14]. While national policies increasingly emphasize inclusive education, less is known about how teachers interpret these policies, adapt instructional practices, and navigate structural constraints in rural school environments. Understanding these experi-

ences is essential for evaluating how inclusive education reforms are translated into practice and for identifying the factors that facilitate or hinder implementation at the classroom level.

This study addresses this gap by exploring teachers' experiences of implementing inclusive education in a rural secondary school in Northern Kazakhstan. Specifically, the study examines how teachers support students with special educational needs, the instructional strategies they employ within inclusive classrooms, and the structural and institutional challenges that shape their work.

This study contributes to the literature in three ways. Firstly, it provides empirical evidence from a rural post-Soviet educational context that remains underrepresented within international inclusive education research. Secondly, it contributes to understanding the policy–practice tensions that shape inclusive education implementation in rural settings. Thirdly, it offers insight into how teachers adapt inclusive practices under conditions of limited institutional and professional support, thereby extending current knowledge regarding inclusive education in Central Asia and other resource-constrained educational environments.

Research Questions

This study was guided by the following research questions:

1. How do teachers in rural Kazakhstan implement inclusive education practices in mainstream classrooms?
2. What instructional strategies do teachers use to support students with special educational needs?
3. What structural and institutional challenges influence inclusive education in rural schools?

2. Literature Review

2.1. Global Development of Inclusive Education

Inclusive education has emerged as a fundamental principle of educational policy and practice worldwide, grounded in the recognition that all learners have the right to access quality education within mainstream educational settings. The concept gained international prominence through the Salamanca Statement (1994), which called upon governments to adopt inclusive schools capable of accommodating all children regardless of their physical, intellectual, social, emotional, linguistic, or other characteristics [5]. This commitment was further strengthened by the United Nations Convention on the Rights of Persons with Disabilities (CRPD, 2006), which established inclusive education as a human right and emphasized the responsibility of states to ensure equitable access to education for persons with disabilities [6].

Contemporary understandings of inclusive education extend beyond the physical placement of students with disabilities in mainstream classrooms. Rather, inclusion is increasingly conceptualized as a process of removing barriers to participation, fostering belonging, and ensuring meaningful engagement for all learners [7].

This broader perspective recognizes diversity as a normal feature of educational environments and requires schools to adapt curricula, teaching practices, and institutional structures to accommodate a wide range of learning needs [8]. Despite widespread policy endorsement, the implementation of inclusive education remains uneven across countries and educational systems. Research consistently demonstrates that successful inclusion depends not only on legislative reforms but also on teacher preparedness, institutional support, access to specialized services, and the availability of educational resources [6,9]. Consequently, significant differences continue to exist between policy as-

pirations and classroom realities, particularly in regions characterized by economic disparities, limited educational infrastructure, and ongoing systemic reforms [10].

2.2. Development of Inclusive Education in Kazakhstan

The development of inclusive education in Kazakhstan has been closely connected to the broader transformation of the national education system following independence from the Soviet Union in 1991. During the Soviet era, educational provision for children with disabilities was primarily organized through segregated special schools and specialized institutions based on a medical model of disability. Educational placement decisions largely emphasized deficits and impairments rather than participation and inclusion within mainstream educational settings [11].

Following independence, Kazakhstan initiated extensive educational reforms aimed at modernizing its education system and aligning national policies with international educational standards [2]. The ratification of international agreements promoting the educational rights of individuals with disabilities accelerated efforts to establish a more inclusive educational system. Inclusive education subsequently became a central component of national educational policy and was formally incorporated into the State Program for Education Development 2011–2020 [13].

In recent years, Kazakhstan has made substantial progress in expanding educational opportunities for students with special educational needs. Legislative reforms, the establishment of psychological-pedagogical support services, and the gradual expansion of inclusive classrooms have contributed to increasing participation rates in mainstream education [14]. Government initiatives have also encouraged schools to improve accessibility, strengthen support services, and provide professional development opportunities related to inclusive education.

Despite these policy advances, significant implementation challenges remain. Research suggests that inclusive education development has progressed unevenly across different regions of Kazakhstan, particularly between urban and rural areas [14]. Urban schools generally have greater access to specialized professionals, including psychologists, speech therapists, special educators, and support personnel. In contrast, rural schools frequently experience shortages of qualified specialists, limited access to professional development, inadequate instructional resources, and infrastructure constraints that affect educational accessibility [15].

These inequalities reflect broader patterns observed across many post-Soviet educational systems. Scholars have argued that while educational reforms have often been adopted rapidly at the policy level, the institutional and material conditions necessary for successful implementation have developed more slowly [9,10]. Consequently, schools may be expected to implement inclusive education policies without receiving equivalent increases in professional support, specialist services, or financial resources. This policy–practice gap remains one of the most persistent challenges affecting inclusive education implementation throughout the region. Although a growing body of scholarship has examined educational reform, disability policy, and inclusive education development in Kazakhstan, much of this research has focused on policy initiatives and system-level developments.

Comparatively little attention has been devoted to teachers' day-to-day experiences implementing inclusion within classroom settings, particularly in rural schools where structural constraints may be most visible [11]. As a result, the perspectives of rural teachers remain underrepresented within both Central Asian and international inclusive education literature.

2.3. Teacher Preparedness and Inclusive Practice

Teacher preparedness is widely recognized as one of the most influential factors affecting the successful implementation of inclusive education. As educational systems increasingly promote the participation of students with diverse learning needs within mainstream classrooms, teachers are expected to accommodate learner variability, adapt instructional practices, collaborate with families and support professionals, and create learning environments that enable meaningful participation for all students [12]. Consequently, teachers play a central role in translating inclusive education policies into everyday classroom practice.

A substantial body of international research has demonstrated that teachers' knowledge, attitudes, self-efficacy, and professional competence significantly influence the quality of inclusive education implementation [13,16]. Teachers who receive formal preparation in inclusive education generally report greater confidence in supporting students with special educational needs and demonstrate more positive attitudes toward inclusion [17]. Conversely, inadequate preparation is frequently associated with uncertainty, reduced self-efficacy, and difficulties adapting instruction to diverse learner needs [18]. Concerns regarding teacher preparedness have been reported across a variety of educational contexts. Although many countries have adopted inclusive education policies, teachers often report feeling insufficiently prepared to implement inclusion effectively. O'Reilly and Colum [19], for example, found that newly qualified teachers frequently perceived a gap between inclusive education policies and the practical skills developed during teacher education programs. Similar findings have been reported in both developed and developing educational systems, suggesting that teacher preparedness remains a persistent challenge within inclusive education reform efforts [20].

Professional development constitutes another critical dimension of teacher preparedness. Inclusive education requires teachers to continuously develop competencies related to differentiated instruction, curriculum adaptation, assessment modification, collaborative problem-solving, and classroom management [18]. Research indicates that ongoing professional learning opportunities contribute to increased teacher confidence and more effective implementation of inclusive practices [21]. However, access to such opportunities often varies considerably according to geographical location and institutional resources. Teachers working in rural schools frequently encounter barriers to professional development, including limited training opportunities, reduced access to specialists, and geographical isolation [22].

Closely related to teacher preparedness is the concept of inclusive pedagogy. Inclusive pedagogy challenges traditional approaches that view learner differences as problems requiring separate educational provision. Instead, it emphasizes the creation of learning environments that accommodate diversity as a normal and expected feature of classrooms [23]. From this perspective, teachers are encouraged to extend learning opportunities to all students rather than developing separate instructional pathways for particular groups of learners.

Implementing inclusive pedagogy often requires substantial curriculum adaptation and instructional flexibility. Teachers may modify teaching materials, adjust learning activities, provide multiple forms of engagement, and employ differentiated instructional strategies to address diverse learning needs [24]. Differentiated instruction recognizes that students vary in their readiness levels, interests, and learning profiles and therefore benefit from varied approaches to content, process, and assessment [24].

Similarly, the Universal Design for Learning (UDL) framework promotes the design of flexible learning environments that provide multiple means of engagement, representation, and expression [25]. Rather than adapting instruction only after difficulties emerge, UDL encourages proactive planning aimed at reducing barriers to participation

Despite the recognized importance of teacher preparedness and inclusive pedagogy, successful implementation remains dependent upon broader institutional conditions. Teachers may possess positive attitudes toward inclusion and demonstrate willingness to adapt instruction, yet still encounter difficulties when professional support, specialist services, instructional resources, or organizational structures are insufficient [22]. Understanding how teachers navigate these challenges is particularly important in rural educational settings, where structural constraints may intensify the demands associated with inclusive practice.

2.4. Inclusive Education in Rural and Post-Soviet Contexts

Research examining inclusive education in rural and post-Soviet contexts remains comparatively limited despite increasing policy commitments across the region. Existing studies indicate that the implementation of inclusive education is often uneven, with significant differences emerging between urban and rural schools in terms of resources, professional support, and educational opportunities [15].

Rural schools frequently encounter challenges associated with geographical isolation, limited infrastructure, shortages of specialized personnel, and restricted access to professional development opportunities [9]. These constraints may affect schools' capacity to provide individualized support for students with special educational needs and can place additional responsibilities on classroom teachers. In many rural settings, teachers are expected not only to deliver instruction but also to perform roles that might otherwise be shared with psychologists, speech therapists, special educators, and other support professionals [11].

These challenges are particularly evident within post-Soviet educational systems. Historically, many countries of the former Soviet Union relied on segregated educational models in which students with disabilities were educated separately from their peers. Although contemporary reforms increasingly promote inclusive education, institutional structures, professional practices, and resource allocation systems continue to reflect elements of this historical legacy [6,10]. As a result, educational reforms frequently require schools to adopt inclusive approaches while simultaneously adapting organizational cultures and support mechanisms that were originally designed for more segregated forms of educational provision.

Several scholars have argued that a persistent policy–practice gap characterizes inclusive education development across many post-Soviet countries [9,14]. While national policies increasingly emphasize inclusion, equity, and educational accessibility, schools may lack the specialist support services, instructional resources, and professional training necessary for effective implementation. Consequently, policy reforms often advance more rapidly than the institutional capacities required to support them in practice.

This tension may be especially pronounced in rural schools, where structural inequalities are often more visible. Compared with urban schools, rural institutions generally have fewer opportunities to access specialist expertise, professional learning networks, and educational resources. Such disparities can create significant challenges for teachers attempting to implement inclusive practices while responding to diverse learner needs [22]. Understanding teachers' experiences within rural schools is therefore essential for examining how inclusive education policies are interpreted, negotiated, and enacted in everyday educational practice. These experiences can provide valuable insight into the opportunities and constraints that shape inclusive education implementation within post-Soviet educational environments and contribute to a more nuanced understanding of how inclusion is experienced beyond major urban centers.

3. Theoretical Framework

This study is informed by two complementary perspectives frequently used in inclusive education research: the social model of disability and the concept of inclusive pedagogy. Therefore, these perspectives provide a framework for examining both the structural conditions influencing inclusive education and the classroom practices teachers employ to support diverse learners.

The social model of disability distinguishes between impairment and disability. While impairment refers to an individual's physical, sensory, cognitive, or psychological condition, disability is understood as the result of social, environmental, institutional, and attitudinal barriers that restrict participation in society [26,27]. From this perspective, educational exclusion is not primarily attributed to students' impairments but rather to barriers embedded within educational systems and practices. Inaccessible school environments, inflexible curricula, insufficient specialist support, limited educational resources, and exclusionary attitudes may all contribute to disabling experiences within educational settings [23]. This perspective is particularly relevant to inclusive education because it shifts attention from individual deficits toward the broader conditions that influence participation and learning opportunities.

In rural educational contexts, where access to specialist personnel, professional support services, and educational resources may be limited, the social model provides a useful lens for understanding how institutional conditions shape the implementation of inclusive education. Rather than viewing challenges solely as characteristics of individual students, the model encourages examination of how structural inequalities and resource constraints affect teachers' capacity to support diverse learners. This perspective is especially relevant in rural Kazakhstan, where schools may experience shortages of specialists, limited infrastructure, and unequal access to support services.

The study is also informed by the concept of inclusive pedagogy, which emphasizes teaching approaches that recognize learner diversity as a normal and expected feature of all classrooms [2,23]. Inclusive pedagogy challenges traditional approaches that separate learners according to perceived ability and instead encourages teachers to create learning opportunities that are accessible to all students. According to Florian and Black-Hawkins [23], inclusive pedagogy involves extending what is ordinarily available in the classroom rather than developing separate educational experiences for particular groups of learners. This approach promotes participation, belonging, and engagement for all students while recognizing the diverse ways in which learners' access and demonstrate knowledge.

Within inclusive pedagogy, teachers are encouraged to employ flexible instructional practices, curriculum adaptations, differentiated learning activities, and varied assessment approaches to accommodate diverse learning needs [24]. In rural schools, where specialist services may be less readily available, teachers often play a central role in designing and implementing these adaptations.

This study draws on both the social model of disability and inclusive pedagogy to understand structural barriers and instructional responses within rural schools. The social model informs analysis of the structural, institutional, and resource-related factors influencing inclusive education implementation, whereas inclusive pedagogy informs analysis of the instructional strategies, classroom adaptations, and teaching practices employed by teachers. Using these perspectives in combination in research is expected to examine both the contextual conditions that shape inclusive education and the practical responses developed by teachers within those conditions.

4. Materials and Methods

4.1. Research Design

This study employed a qualitative case study design to explore teachers' experiences of implementing inclusive education in a rural secondary school in Northern Kazakhstan. Qualitative case study research is particularly appropriate for investigating complex educational phenomena within their real-life contexts, especially when the boundaries between the phenomenon and its context are not clearly evident [28,29]. Because inclusive education is shaped by social, institutional, and contextual factors, a qualitative approach allows for a deeper understanding of how teachers interpret and enact inclusive practices within everyday school settings.

The study focused on a single rural school as a bounded case. Case study methodology enables researchers to examine participants' experiences, perspectives, and practices in depth while taking into account the contextual conditions that influence those experiences [29]. Given the limited empirical research examining inclusive education implementation in rural Kazakhstan, an in-depth case study was considered appropriate for generating contextually rich insights into teachers' experiences working with students with special educational needs.

The study sought to understand how teachers implement inclusive education in mainstream classrooms, the instructional strategies they use to support diverse learners, and the structural and institutional factors that influence their work. By focusing on teachers' experiences within a specific rural school context, the study aimed to provide a detailed understanding of how inclusive education policies are interpreted and enacted in everyday educational practice.

4.2. Research Context

The study was conducted in a public secondary school located in a rural district of Northern Kazakhstan. The school was selected because it had experience implementing inclusive education and enrolled students with special educational needs within mainstream classrooms. The school was also considered information-rich, as it reflected many of the opportunities and challenges commonly associated with inclusive education in rural regions of Kazakhstan.

In Kazakhstan, rural schools differ from their urban counterparts in several important ways. Rural communities are often characterized by lower population density, greater geographical distances between educational and support services, and more limited access to specialized educational resources. Schools in these areas may experience difficulties recruiting and retaining specialists such as psychologists, speech and language therapists, special educators, and social workers. Professional development opportunities are also often less accessible due to geographical distance and limited institutional resources [28].

The selected school served students from the local community and surrounding villages. Similar to many rural schools in Kazakhstan, it operated within a context where educational resources and specialist support services were more limited than those typically available in urban centers. Although inclusive education policies have expanded nationally, the implementation of these policies in rural areas frequently depends on the capacity of classroom teachers to address diverse learning needs with limited external support [11].

At the time of the study, the school included several students with special educational needs who were educated in mainstream classrooms. These students presented a range of educational needs, including speech and language difficulties, hearing impairments, learning difficulties, and developmental challenges. Consequently, the school provided an appropriate setting for examining how teachers interpret and implement inclusive education practices within a rural educational environment.

The selection of this context was also informed by the limited empirical research examining inclusive education in rural and post-Soviet educational settings. Investigating teachers' experiences within this school therefore provided an opportunity to explore how national inclusive education policies are translated into classroom practice under the specific conditions of rural Kazakhstan.

4.3. Participants

The participants consisted of sixteen teachers employed at the selected rural secondary school. A purposive sampling strategy was used to recruit information-rich participants who had direct experience teaching students with special educational needs in inclusive classroom settings [28]. Purposive sampling was considered appropriate because the study sought to explore the experiences and perspectives of teachers actively involved in inclusive education. To be eligible for participation, teachers were required to have experience teaching at least one student with special educational needs in a mainstream classroom. School administrators assisted in identifying teachers who met these criteria; however, participation was entirely voluntary. Teachers were provided with information about the study's aims and procedures and were invited to participate if they were willing to share their experiences. Written informed consent was obtained from all participants prior to data collection.

The final sample included teachers from a range of subject areas, including mathematics, science, languages, and primary education. Participants represented varying levels of professional experience, ranging from 10 to 30 years of teaching experience. This diversity enabled the study to capture a broad range of perspectives regarding inclusive educational practices within the school.

Data collection continued until sufficient depth and repetition were observed across the interview data. Consistent patterns began to emerge regarding teacher preparedness, instructional adaptation, institutional support, and challenges associated with inclusive education, suggesting that an adequate level of thematic saturation had been reached [11]. To protect participant confidentiality, pseudonyms were not used because no identifying personal information was reported. Instead, participants were assigned identification codes (T1–T16), which are used throughout the findings section when reporting interview excerpts. Table 1 presents the demographic characteristics of the participants.

Table 1. Demographic Characteristics of Participants.

Code	Subject	Gender	Age	Teaching Experience
T1	Math Teacher 1	Female	59	25
T2	Math Teacher 2	Male	45	16
T3	Russian Language Teacher 1	Female	60	28
T4	Russian Language Teacher 2	Female	54	19
T5	Chemistry Teacher 1	Male	47	10
T6	Chemistry Teacher 2	Female	49	23
T7	Physics Teacher 1	Male	45	15
T8	Physics Teacher 2	Male	37	14
T9	English Language Teacher 1	Female	43	18
T10	English Language Teacher 2	Female	41	15
T11	Kazakh Language Teacher 1	Female	39	18
T12	Kazakh Language Teacher 2	Female	43	21
T13	Biology Teacher 1	Female	39	16
T14	Biology Teacher 2	Male	51	19
T15	Primary Education Teacher 1	Female	35	15
T16	Primary Education Teacher 2	Male	39	16

4.4. Data Collection

Data were collected through individual semi-structured interviews conducted with each participant between January and March 2024. Semi-structured interviews were selected because they provide flexibility for exploring participants' experiences while ensuring consistency across interviews through the use of a common interview guide [28]. This approach was considered particularly appropriate for examining teachers' perceptions and experiences related to inclusive education.

The interview protocol was developed based on the research questions and relevant literature on inclusive education, teacher preparedness, and inclusive classroom practices. The interview guide included questions concerning teachers' understanding of inclusive education, experiences working with students with special educational needs, instructional adaptations, institutional support, parental involvement, and challenges associated with implementing inclusive education. Follow-up questions were used when necessary to obtain clarification and richer descriptions of participants' experiences.

All interviews were conducted in Kazakh, the participants' preferred language, to facilitate open communication and detailed reflection on their professional experiences. Interview duration ranged from approximately 20 to 60 min, depending on the depth of participants' responses. With participants' permission, all interviews were audio-recorded and subsequently transcribed verbatim for analysis.

4.5. Data Analysis

The interview recordings were first transcribed verbatim in Kazakh and subsequently translated into English for reporting purposes. To enhance translation accuracy, transcripts and translations were reviewed multiple times by the researcher, with particular attention given to preserving contextual meanings, educational terminology, and participants' intended interpretations.

The data were analyzed using thematic analysis following the procedures outlined by Braun and Clarke [30]. Analysis began with repeated reading of the transcripts to achieve familiarity with the data. Initial codes were then generated by identifying meaningful segments of text related to participants' experiences of inclusive education. Similar codes were grouped into broader categories, and potential themes were developed through an iterative process of comparison across interviews. Themes were subsequently reviewed, refined, and defined to ensure coherence and meaningful representation of the data and coding and theme development were conducted by authors together.

Throughout the analytical process, reflective notes were maintained to document coding decisions, emerging interpretations, and theme development. The final themes represented recurring patterns across participants' accounts regarding inclusive education implementation, instructional adaptation, institutional support, and challenges encountered in rural school settings. The final themes and associated codes derived from thematic analysis are presented in Table 2.

Table 2. Themes and Codes Derived from the Thematic Analysis.

Theme	Codes	Participants
Teacher Preparedness and Professional Development	Lack of formal training; learning through experience; need for practical training; lack of structured professional development	All participants
Curriculum Adaptation and Instructional Strategies	Simplified assignments; differentiated instruction; visual materials; step-by-step instruction; individualized support; modified materials	Majority of participants
Peer Acceptance and Social Integration	Cooperative learning; peer assistance; improving attitudes; initial hesitation	Majority of participants
Institutional and Structural Barriers	Lack of specialists; insufficient resources; limited assistive technology; inadequate infrastructure	Majority of participants
Parental Engagement	Supportive parental attitudes; need for stronger school-family communication	Several participants

4.6. Trustworthiness

The trustworthiness of the study was established using the criteria of credibility, dependability, confirmability, and transferability proposed by Lincoln and Guba [31]. Credibility was enhanced through prolonged engagement with the data and repeated review of the interview transcripts. In addition, peer debriefing was employed during the analytical process. Emerging codes and themes were discussed with colleagues familiar with qualitative research and inclusive education, contributing to greater analytical rigor and reducing the likelihood of researcher bias.

4.7. Researcher Positionality and Reflexivity

The first author is a female researcher whose academic and professional work focuses on education, inclusive education, and teacher development. Her prior experience in educational research provided familiarity with the challenges associated with inclusive educational practice, while also creating the possibility that personal assumptions could influence data interpretation.

To address this issue, reflexive practices were employed throughout the study. Analytical decisions were grounded in participants' narratives and supported by repeated review of interview transcripts rather than predetermined expectations. Reflective notes were maintained during data collection and analysis to increase awareness of potential biases and their influence on interpretation.

Given the cultural and linguistic context of the study, particular attention was also devoted to preserving participants' intended meanings during transcription and translation. Continuous reflection on the researcher's position, assumptions, and interpretations contributed to a more transparent and critically informed analytical process.

4.8. Ethical Considerations

Ethical considerations were carefully addressed throughout the research process. Participants were informed about the purpose of the study, the voluntary nature of participation, and their right to withdraw at any stage without consequence. Written informed consent was obtained from all participants prior to data collection.

To protect confidentiality, participants were assigned identification codes (T1–T16), and no personally identifiable information was included in the study. All interview recordings and transcripts were stored securely and used exclusively for research purposes. Ethical approval for the study was obtained from the American University of Central Asia Social and Human Sciences Ethics Committee (Decision No: 2023110200000854, Date of Approval: 2 December 2023) prior to data collection.

5. Results

The findings are organized around five themes derived from the thematic analysis: (1) Teacher Preparedness and Professional Development, (2) Curriculum Adaptation and Instructional Strategies, (3) Peer Acceptance and Social Integration, (4) Institutional and Structural Barriers, and (5) Parental Engagement. These themes capture teachers' experiences of implementing inclusive education in a rural secondary school in Northern Kazakhstan.

To improve transparency, participant frequencies are reported throughout the findings. In this study, "most teachers" refers to 13–16 participants, "many teachers" refers to 9–12 participants, "several teachers" refers to 5–8 participants, and "a few teachers" refers to 2–4 participants. Interview excerpts are identified using participant codes (T1–T16) to protect confidentiality. Table 2 presents the themes and key codes identified through the thematic analysis.

5.1. Teacher Preparedness for Inclusive Education

Teacher preparedness emerged as one of the most prominent themes across the interviews. Most teachers ($n = 14$) reported receiving little or no formal preparation related to inclusive education during their pre-service teacher education. Participants explained that university programs primarily emphasized subject knowledge and general pedagogical skills, while providing limited guidance on how to support students with special educational needs in mainstream classrooms. Several participants explained that university programs had focused heavily on disciplinary content while providing little exposure to inclusive pedagogical approaches. As one participant noted:

"At the university we mainly studied our subject. We did not learn how to work with students who have disabilities or special learning needs. When such students appeared in my class, I had to learn everything through practice." (T3)

This quotation illustrates a recurring concern among participants that inclusive education was largely absent from their initial teacher preparation. Rather than relying on formal training, many teachers reported developing inclusive practices through trial and error, classroom experience, and informal consultation with colleagues.

Most teachers ($n = 13$) emphasized that practical experience had become their primary source of professional learning. Participants explained that everyday interaction with students, observation of colleagues, and self-directed learning were often more influential than formal professional development opportunities. While some teachers felt that experience gradually increased their confidence, others reported continuing uncertainty regarding how best to address diverse learning needs.

The need for more specialized professional development was also emphasized by many teachers ($n = 11$). Participants expressed a preference for practice-oriented training that focused on concrete classroom strategies rather than general theoretical information. As an example, one participant indicated:

"There are not enough training courses on inclusive education. If such courses exist, they should involve specialists who can demonstrate practical strategies for working with these students." (T11)

Participants consistently argued that effective professional development should provide opportunities to learn directly from specialists and experienced practitioners. Teachers believed that practical demonstrations, case examples, and collaborative learning activities would better prepare them to address the diverse needs of students in inclusive classrooms. At the same time, several teachers ($n = 7$) described experiencing anxiety and uncertainty when working with students whose educational needs differed

substantially from those of their peers. These concerns were particularly evident among teachers who had limited prior experience with inclusive education.

Participants frequently questioned whether they possessed sufficient knowledge and skills to meet students' academic, social, and emotional needs effectively. Overall, the findings suggest that teacher preparedness for inclusive education in this rural school was shaped largely by experiential learning rather than systematic professional preparation. Although participants demonstrated strong commitment to supporting students with special educational needs, many perceived a continuing need for more structured training, specialist guidance, and ongoing professional development opportunities.

5.2. Curriculum Adaptation and Instructional Strategies

Curriculum adaptation and differentiated instruction emerged as another major theme across the interviews. Most teachers (n = 15) reported regularly modifying instructional materials, classroom activities, and assessment procedures to accommodate the diverse learning needs of students with special educational needs. Participants described these adaptations as essential for enabling students to participate meaningfully in classroom learning.

Many teachers (n = 12) explained that they frequently simplified assignments, reduced task complexity, or adjusted learning objectives according to students' individual abilities. These modifications were viewed as necessary because standard curricular materials were often perceived as too demanding for some students. As T6 explained:

"Sometimes I prepare two versions of the same task. One version is for the whole class, and another version is simplified for students who need more support." (T6)

This approach was commonly described by participants as a practical strategy for balancing curriculum requirements with individual learning needs. Teachers emphasized that differentiated tasks allowed students to participate in the same lesson while working at an appropriate level of difficulty. Visual supports and step-by-step instruction were also frequently mentioned by most teachers (n = 13). Participants reported using diagrams, pictures, graphic organizers, and visual demonstrations to make learning content more accessible. According to T15:

"When I use pictures, diagrams, or examples, students understand much more easily. Visual materials help them follow the lesson and stay engaged." (T15)

Teachers indicated that visual resources were particularly useful for supporting students who experienced difficulties with abstract concepts, language processing, or maintaining attention during lessons. Half of the teachers (n = 8) also described using flexible grouping strategies and individualized support during classroom activities. Participants explained that small-group work encouraged peer collaboration while allowing teachers to provide additional assistance to students requiring greater support. As T9 noted:

"I often place students in mixed-ability groups so that they can help one another. This makes participation easier for students who struggle with some tasks." (T9)

Teachers generally perceived collaborative learning arrangements as beneficial for both academic participation and classroom engagement. Despite their commitment to inclusive practices, many teachers (n = 11) reported that curriculum adaptation required substantial additional preparation time. Participants explained that existing textbooks and teaching materials were not specifically designed for inclusive classrooms, requiring them to develop supplementary resources independently.

Most of the teachers described preparing modified worksheets, alternative activities, and individualized tasks outside regular working hours. Overall, the findings indicate that teachers employed a wide range of adaptive instructional strategies to support students with special educational needs. Curriculum adaptation, differentiated instruction,

visual supports, and individualized assistance were commonly used to facilitate participation and learning. However, participants consistently emphasized that implementing these strategies required considerable time, effort, and professional commitment.

5.3. Peer Acceptance and Social Integration

Peer acceptance and social integration emerged as an important aspect of inclusive education. Most teachers ($n = 13$) described classroom relationships as generally positive and reported that students without disabilities were often willing to assist classmates with special educational needs. Participants indicated that regular interaction within inclusive classrooms contributed to the development of supportive peer relationships over time. Many teachers ($n = 10$) reported using cooperative learning activities to encourage communication and collaboration among students. According to T7:

“When students work together in groups, they begin to understand that everyone learns differently. It helps them become more patient and supportive.” (T7)

This quotation reflects a commonly expressed belief that collaborative classroom activities promoted mutual understanding and positive social interaction. Teachers frequently described group work as an effective strategy for encouraging participation and reducing social isolation among students with special educational needs.

At the same time, several teachers ($n = 6$) noted that social acceptance did not occur automatically. Participants explained that some students initially demonstrated uncertainty or hesitation when interacting with classmates who had visible disabilities, such as hearing impairments, or communication difficulties. As T12 explained:

“At first, some students were unsure how to communicate with classmates who had different learning or communication needs. Over time, these concerns gradually decreased.” (T12)

Teachers emphasized that supportive classroom relationships developed gradually through repeated interaction, teacher guidance, and shared learning experiences. Several participants indicated that discussions about respect, empathy, and cooperation played an important role in fostering positive peer attitudes.

Overall, participants viewed social inclusion as an ongoing process that required active support from teachers and students alike. While challenges occasionally emerged, most teachers reported that inclusive classroom environments contributed positively to peer relationships and students' sense of belonging.

5.4. Institutional and Structural Barriers

Institutional and structural barriers constituted one of the most frequently discussed themes across the interviews. Most teachers ($n = 14$) reported that limited access to specialist support services significantly affected their ability to implement inclusive education effectively. The shortage of specialized professionals was identified as a major concern. Participants frequently referred to the limited availability of speech therapists, psychologists, special educators, and other support personnel within rural schools. As T4 stated:

“In rural schools we do not have enough specialists who can help teachers. Sometimes we have students with speech problems or hearing difficulties, but there is no speech therapist available.” (T4)

This concern was raised repeatedly throughout the interviews. Teachers explained that they were often required to address complex student needs independently because specialist services were either unavailable or accessible only through external institutions located in larger urban centers. Additionally most of the teachers ($n = 11$) also reported insufficient access to instructional resources and assistive technologies.

Participants described difficulties obtaining specialized teaching materials, adaptive equipment, and technological resources that could support students with diverse learning needs. According to T14:

"We try to support all students, but sometimes we simply do not have the materials or equipment that would make learning easier for them." (T14)

A few teachers ($n = 4$) further highlighted concerns related to school infrastructure. Participants noted that some physical spaces were not fully accessible for students with mobility-related disabilities and those modifications were often constrained by limited financial resources.

Teachers frequently connected these challenges to broader differences between rural and urban educational settings. Many participants ($n = 10$) perceived that schools in larger cities had greater access to professional support services, training opportunities, and educational resources. Consequently, participants often felt that the successful implementation of inclusive education depended not only on teacher effort but also on the availability of institutional support. Overall, the findings suggest that resource limitations, shortages of specialists, and infrastructural constraints remain significant challenges affecting inclusive education implementation in rural school settings.

5.5. Parental Engagement

Parental engagement represented the final theme identified in the analysis. Many teachers ($n = 10$) described parents as important partners in supporting the educational and social development of students with special educational needs.

Participants generally reported positive parental attitudes toward inclusive education and students' participation in mainstream classrooms. Therefore some teachers ($n = 7$) also noted that regular communication between teachers and families contributed positively to student progress. Participants explained that ongoing dialogue helped establish shared expectations and facilitated coordinated support between home and school. As T5 explained:

"When parents and teachers communicate regularly, it becomes much easier to understand what the student needs and how we can support them together." (T5)

This view was shared by many participants, who emphasized the importance of collaborative relationships between families and schools. However, several teachers ($n = 6$) also reported variation in parents' understanding of inclusive education. Participants explained that some families possessed limited knowledge regarding special educational needs or were uncertain about how to support their children outside school. According to T10:

"Some parents are very supportive, but others are unsure about what inclusive education means or how they can help their child at home." (T10)

Teachers suggested that additional informational meetings, parent workshops, and school-family collaboration initiatives could strengthen parental involvement and improve educational outcomes for students with special educational needs. Overall, participants viewed parental engagement as an important component of successful inclusion. While most teachers reported positive relationships with families, they also identified opportunities for strengthening communication and collaboration between schools and parents.

6. Discussion

This study explored how teachers in a rural secondary school in Northern Kazakhstan experience and implement inclusive education in everyday classroom practice. The findings indicate that teachers generally hold positive attitudes toward inclusion and demonstrate a strong commitment to supporting students with special educational needs. However, the study also shows that inclusive education is shaped not only by teachers' individual efforts but by broader institutional, historical, and structural conditions. These findings contribute to growing international discussions regarding the challenges of translating inclusive education policies into meaningful classroom practices, particularly in under-resourced and geographically isolated contexts.

One of the most significant findings concerns teacher preparedness for inclusive education. Most participants reported receiving limited formal preparation related to inclusive teaching during their pre-service education and described learning how to support students with special educational needs largely through practical experience. Similar concerns have been documented internationally, where teachers frequently report insufficient preparation for working in increasingly diverse classrooms [7–9, 23]. Interestingly, the findings suggest that limited preparedness is not unique to rural Kazakhstan. Research from a range of educational contexts has shown that newly qualified teachers often feel inadequately prepared for inclusive practice despite policy commitments to inclusion [13].

This suggests that teacher preparedness represents a broader international challenge rather than a problem confined to resource-constrained settings. However, in rural Kazakhstan the consequences of insufficient preparation appear to be amplified by limited access to specialist support services, professional development opportunities, and institutional resources. Consequently, teachers often become responsible for addressing complex learner needs without the support structures commonly available in more developed educational settings. From the perspective of inclusive pedagogy, these findings suggest that teacher agency alone is insufficient without systemic support mechanisms.

The findings also suggest that challenges related to teacher preparedness should be understood within the broader historical context of post-Soviet educational transformation. Historically, educational systems across much of the former Soviet region relied heavily on segregated approaches to disability and special education [10,15]. The transition toward inclusive education has therefore required not only policy reform but also substantial changes in professional practices, institutional cultures, and educational beliefs. Although Kazakhstan has introduced significant legislative and policy initiatives supporting inclusion, participants' experiences indicate that the development of teacher preparation systems and institutional support mechanisms has not always progressed at the same pace as policy reform. This finding highlights an important tension between policy aspirations and implementation capacity that has also been identified in other post-Soviet and Central Asian educational contexts [18, 22]. Previous studies have emphasized that reforms in teacher education are essential for improving teachers' preparedness for inclusive practices [32].

The findings related to curriculum adaptation and differentiated instruction provides strong support for the principles of inclusive pedagogy. Rather than viewing learners with special educational needs as requiring separate educational provision, participants described modifying classroom activities, assessment practices, and instructional materials to enable participation within shared learning environments. This reflects the core assumption of inclusive pedagogy that learner diversity should be addressed through flexible teaching approaches rather than through exclusionary practices [6, 12]. Importantly, teachers enacted these practices despite limited institutional support,

demonstrating considerable professional agency in adapting instruction to diverse learner needs.

An important implication of this finding is that teachers frequently acted as compensatory agents within the educational system. Rather than relying on formal support structures, participants described developing individualized materials, modifying assessments, and creating alternative learning opportunities independently. While these practices demonstrate professional commitment and creativity, they also suggest that responsibility for inclusion may have become concentrated at the classroom level. This raises important questions regarding the long-term sustainability of inclusive education when successful implementation depends primarily on individual teacher initiative rather than systemic support. In this respect, inclusive pedagogy appears not only as a pedagogical framework but also as a practical strategy through which teachers attempt to compensate for institutional limitations.

The study also highlights the social dimensions of inclusion. Participants emphasized the importance of peer relationships, cooperative learning, and classroom culture in supporting students' participation. Consistent with previous research [14], teachers reported that positive peer relationships did not emerge automatically but required deliberate facilitation through structured interaction and teacher guidance. These findings reinforce the view that inclusion extends beyond physical placement in mainstream classrooms and involves creating opportunities for meaningful social participation and a sense of belonging. From an inclusive pedagogy perspective, social inclusion represents a central component of educational participation because learning occurs through interaction, collaboration, and engagement with others. The findings therefore suggest that teachers play a critical role not only in adapting instruction but also in fostering classroom environments that support mutual respect, empathy, and social acceptance.

A particularly important contribution of this study concerns the relationship between institutional conditions and inclusive education implementation. Participants consistently described shortages of specialists, limited access to professional development, inadequate educational resources, and infrastructural constraints. Viewed through the social model of disability, these findings suggest that many barriers experienced by students with special educational needs are not solely the result of individual impairments but are produced through institutional arrangements that restrict access, participation, and support [11].

In this sense, disability emerges not only from personal characteristics but also from the interaction between learners and educational environments that are insufficiently prepared to accommodate diversity. The findings therefore support the central argument of the social model by demonstrating how exclusion can be produced through structural conditions rather than individual limitations alone. This finding strongly reflects the assumptions of the social model of disability, which locates barriers to participation within institutional structures rather than individual impairments.

Importantly, the findings suggest that the challenges identified in this study are not simply a consequence of rurality. Rather, they reflect the interaction between geographic inequalities and the historical legacy of post-Soviet educational systems. Similar patterns have been reported in other Central Asian and post-Soviet countries, where inclusive education reforms have often advanced more rapidly than the institutional support structures required for their implementation [12,18,22]. While many studies identify shortages of specialists and educational resources as barriers to inclusion, the present findings illustrate how these challenges are experienced and negotiated by teachers on a daily basis within a rural school context. The study therefore moves beyond identifying barriers by demonstrating how teachers actively navigate and respond to these constraints in their everyday practice.

The Kazakhstani context provides a particularly valuable case for examining inclusive education because it sits at the intersection of international policy reform and post-Soviet educational traditions. Unlike many Western contexts where inclusive education has developed gradually over several decades, Kazakhstan has experienced a relatively rapid policy transition toward inclusion. The findings suggest that this rapid transition has generated tensions between policy aspirations and institutional capacity, particularly in rural regions. Consequently, the study highlights how inclusive education reforms are shaped not only by educational goals but also by broader historical, economic, and structural conditions. This contribution is particularly important given the limited representation of Central Asian educational contexts within the international inclusive education literature. Recent policy analyses continue to highlight inequalities in access to inclusive education services between urban and rural regions of Kazakhstan [33].

The findings also point to the importance of shared responsibility in inclusive education. Although participants demonstrated considerable professional commitment and frequently developed creative solutions to support students with special educational needs, teachers consistently emphasized the need for stronger collaboration among schools, families, specialists, and educational authorities. This finding aligns with contemporary understandings of inclusion as a systemic process requiring coordinated institutional support rather than relying solely on individual teacher initiative [2,5]. When responsibility for inclusion rests primarily on classroom teachers, there is a risk that inclusive education becomes dependent on personal commitment rather than sustainable educational structures.

Overall, this study contributes to inclusive education research in three important ways. First, it extends the limited empirical literature on inclusive education in Central Asia by providing evidence from a rural Kazakhstani context that remains largely absent from international scholarship. Second, it demonstrates how structural inequalities influence inclusive education implementation at the classroom level, highlighting the importance of institutional conditions alongside teacher practices. Third, it illustrates how teachers enact the principles of inclusive pedagogy under conditions of limited support, adapting instruction and fostering participation despite significant institutional constraints. More broadly, the findings contribute to international debates regarding the relationship between inclusive education policy and implementation. While policy frameworks increasingly promote participation and educational equity, the experiences of teachers in rural Kazakhstan demonstrate that inclusion remains contingent upon the availability of institutional support, specialist expertise, and accessible educational resources. The study therefore reinforces the argument that inclusive education should be understood not merely as a pedagogical reform but as a systemic process requiring sustained structural investment, institutional commitment, and educational equity.

7. Limitations

This study has several limitations that should be considered when interpreting the findings. First, the research was conducted in a single rural secondary school in Northern Kazakhstan. As a qualitative case study, the purpose was to develop an in-depth understanding of a specific educational context rather than to produce statistically generalizable findings. Educational conditions may vary considerably across regions of Kazakhstan, particularly between rural and urban settings. In addition, the study focused on a school that had already adopted inclusive education practices. Schools with different organizational cultures, leadership structures, levels of institutional support, or access to specialist services may experience inclusion differently. Therefore, the findings should be understood as contextually situated insights rather than representative of all rural schools in Kazakhstan. Nevertheless, the detailed description of the research con-

text may support the transferability of the findings to similar rural and post-Soviet educational environments. Consequently, the findings should be interpreted as contextually situated insights rather than statistically generalizable evidence.

Second, the study relied exclusively on semi-structured interviews and did not include classroom observations, document analysis, or quantitative measures. The inclusion of multiple data sources could have provided additional insight into how inclusive practices are enacted in everyday classroom interactions and strengthened methodological triangulation.

Third, the interviews were conducted in Kazakh and subsequently translated into English. The first researcher is a native Kazakh speaker and has extensive professional experience within the Kazakh educational context. This linguistic and cultural familiarity facilitated rapport with participants and supported a more nuanced understanding of local educational practices, cultural expectations, and disability-related perspectives within rural schools. Although careful transcript review, repeated comparison of translations, and researcher reflection were used to preserve participants' intended meanings, some culturally specific expressions, emotional nuances, or locally embedded meanings may not have been fully captured in the translation process.

Finally, because inclusive education remains a socially sensitive topic in some educational contexts, participants may have provided socially desirable responses regarding their attitudes, experiences, and classroom practices. Although efforts were made to encourage open and honest discussion, this possibility cannot be entirely excluded.

Future research should examine inclusive education implementation across multiple schools and regions of Kazakhstan and incorporate additional data sources such as classroom observations, student perspectives, parent perspectives, and school-level documentation. Such research would provide a more comprehensive understanding of how institutional, geographic, and cultural factors shape inclusive education practices across diverse educational contexts.

8. Conclusions

This study explored how teachers in a rural secondary school in Northern Kazakhstan implement inclusive education in everyday classroom practice. The findings indicate that teachers demonstrate a strong commitment to supporting students with special educational needs through curriculum adaptation, differentiated instruction, and efforts to promote social inclusion. At the same time, the study highlights the continuing influence of institutional and structural conditions on the implementation of inclusive education in rural schools.

The study contributes to the limited body of research on inclusive education in Central Asia by providing empirical evidence from a rural post-Soviet educational context that remains underrepresented in international scholarship. The findings illustrate how teachers navigate the gap between national policy aspirations and classroom realities while demonstrating that inclusive education is shaped not only by pedagogical practices but also by broader social, institutional, and historical conditions. In doing so, the study extends current understanding of how inclusive education reforms are experienced and enacted within rural educational settings undergoing ongoing systemic transformation. To address these challenges, the establishment of mobile specialist teams and inter-school collaboration networks among rural schools may be recommended as a strategy to improve access to specialist support services and reduce inequalities in inclusive education provision across geographically isolated regions.

The findings have important implications for educational policy and practice. Strengthening inclusive education in rural Kazakhstan requires sustained investment in teacher professional development, increased access to psychologists, speech therapists,

and special education specialists, improved school infrastructure, and greater availability of instructional resources and assistive technologies. In addition, stronger collaboration among schools, families, specialists, and educational authorities may further support both academic participation and social inclusion for students with special educational needs.

Ultimately, the findings demonstrate that inclusive education in rural Kazakhstan is shaped by the interaction of teacher agency and structural conditions. While teachers play a critical role in fostering participation, learning, and belonging, sustainable inclusion requires educational systems that provide adequate resources, specialist support, and equitable learning opportunities. Inclusive education can only be fully realized when responsibility for inclusion is shared across classrooms, schools, communities, and policy systems.

By addressing both pedagogical and structural dimensions of inclusion, policy-makers and educational leaders can better support the development of more equitable and inclusive educational environments across diverse rural contexts in Kazakhstan. Although derived from a single rural school, many of the identified challenges, including shortages of specialists, limited professional development opportunities, and infrastructure constraints, are shared by rural schools across Kazakhstan and may therefore have broader relevance for national policy development.

Author Contributions: Conceptualization, B.B., A.E. and S.K.; methodology, A.E. and S.K.; formal analysis, B.B. and A.E.; investigation, B.B.; data curation, B.B. and A.E.; writing—original draft preparation, B.B.; writing—review and editing, A.E. and S.K.; supervision, S.K.; project administration, B.B.; validation, A.E. and S.K. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki. Ethical principles were strictly followed throughout this research. Necessary ethical approval for the conduct of the study was obtained from the American University of Central Asia Social and Human Sciences Ethics Committee (Decision No: 2023110200000854, Date of Approval: 2 December 2023).

Informed Consent Statement: Informed consent was obtained from all participants involved in the study.

Data Availability Statement: The data presented in this study are not publicly available due to ethical and confidentiality restrictions.

Acknowledgments: This article is based on research conducted as part of the first author's graduate thesis entitled "Teachers' Implementation of Inclusive Education in Rural Schools of Kazakhstan" at American University of Central Asia: Bishkek, Kyrgyzstan. The university confirms that no restrictions on deriving manuscripts from the thesis and publishing them in academic journals. During the preparation of this manuscript, the authors used Grammarly for language editing, formatting guidance, and academic writing support. The authors reviewed and edited all generated content and take full responsibility for the content of this publication.

Conflicts of Interest: The authors declare no conflicts of interest.

Disability Language/Terminology Positionality Statement: This manuscript uses person-first language, including phrases such as "students with disabilities" and "students with special educational needs", because this terminology is commonly used within Kazakhstan's educational policy and teacher education discourse. The authors recognize the importance of respectful and inclusive terminology and acknowledge that disability language preferences may vary across cultural and

individual contexts. Throughout the study, care was taken to use language that respects the dignity, autonomy, and lived experiences of individuals with disabilities.

Abbreviations

The following abbreviations are used in this manuscript:

SEN	Special Educational Needs
UDL	Universal Design for Learning

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