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Inclusive practices in Kazakhstan: validating the teacher efficacy for inclusive practice scale for the local context

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ABSTRACT

Since 2011, Kazakhstan has made positive advances towards establishing inclusive education. To monitor ongoing progress effectively, this research aimed to validate the *Teaching Efficacy for Inclusive Practices* scale as an evidence-based approach on which to enable further decisions. Validation processes confirmed reliability for use in Kazakhstan. Subsequent analysis of data from 6,186 teachers revealed fairly positive perceptions of personal efficacy for providing inclusive instruction, managing behaviour, and collaboration. The implications for maintaining and enhancing inclusive practices in Kazakhstan are discussed considering these findings. Specific emphasis is placed on the identified impact of experience and increased training on improving perceived teacher efficacy; issues associated with the perceived challenges of behaviour management; and how these relate to the Government's focus on improvement and training through the introduction of the new 'comfortable' inclusive schools.

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Introduction

Every child has a right to education and must have the opportunity to access, achieve and maintain an acceptable level of learning (UNESCO 1994). All students should have access to regular schools, and as such, an inclusive education is a fundamental human right for every child, including those with a disability (United Nations 2006). An inclusive education system is 'one that accommodates all students whatever their abilities or requirements, and at all levels – pre-school, primary, secondary, tertiary, vocational and life-long learning' (United Nations Children's Fund 2017, 3).

Since the 1980s, there has been international acceptance and support for a more inclusive approach to education, which has been considered as the most equitable way to educate all learners, including those with disability (Chambers and Forlin 2021). The Salamanca Statement (UNESCO 1994) originally stipulated the fundamental right of every child to receive appropriate education, and that students with

special educational needs must have access to regular schools. It did not, however, raise the issue of how this was to occur, thus, leaving interpretation open for different states to decide. In many instances this resulted in token placement decisions in regular schools which did not address the issue of how teachers were to ensure effective engagement and equality of access to education. In the establishment of the UN Sustainable Development Goals in 2015, Goal 4 aimed to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. This goal of quality education for all is critical as it reduces the educational inequalities for vulnerable students, including those with disabilities (United Nations 2015). In these frameworks and policies, there is recognition that education is a fundamental right and basic building block of society, with inclusive regular schools having the potential to provide an effective means of combating discriminatory attitude, creating welcoming and inclusive societies and reducing social disparities.

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Inclusive education as a concept has evolved considerably over the past two decades. Transitioning from a placement position for learners with disability to one of ensuring equal opportunities and rights, inclusion still lacks reference to the overarching mode of living within an inclusive society (Selisko, Eckert, and Perels 2024). Inclusion is consequently interpreted and enacted differently depending upon the implementation of theory into practice, underpinned by localised cultural beliefs and government expectations. According to the Law of the Republic of Kazakhstan on 'Education' dated July 27, 2007, No. 319-III, in Article 1, Chapter 1, which outlines the basic concepts, the term 'inclusive education' is defined as 'a process that ensures equal access to education for all students, considering their special educational needs and individual capabilities' (<https://adilet.zan.kz/rus/docs/Z070000319>).

Despite this support for inclusive education, it has not been an easy model to enact, with countries facing various barriers to the successful implementation of inclusive education. There is recognition that inclusive practices in schools are largely affected by broad social expectations and government policies, with cultural expectations and values having an impact on the successful inclusion of students with disabilities in the regular classroom (Moberg et al. 2020; Mutuota 2024). Practical aspects, such as finance (Meijer and Watkins 2019), physical and technological access (Kibret et al. 2025), the classroom environment (Xu et al. 2024), and teacher education (Kisbu-Sakarya and Doenyas 2021) all play a role in establishing and developing effective inclusive practices. A positive and collaborative partnership between teachers, students and parents (Jorban et al. 2024) is also vital for supporting students with special educational needs and disability (SEND) (Prisiazhniuk et al. 2024).

Successful implementation of inclusive educational practices is strongly determined by teacher efficacy, attitudes, and abilities (Vantieghem et al. 2023; Woodcock et al. 2022), which can be impacted by their training and skills (Khamzina et al. 2024). Effective teacher education is, therefore, a key contributor to positive, inclusive education practice (Bartels et al. 2020). The preparation of teachers to teach in inclusive classrooms requires both classroom-based instruction and field-based practical experience in order to effectively prepare teachers for teaching students with disability and additional needs (Walker et al. 2024). Support and ongoing professional development is also necessary for in-service teachers, with long-term training, practical relevance, and active

learning opportunities vital for facilitating teachers with the skills necessary for successful inclusive education (Donath et al. 2023). The content covered to prepare educators to teach in inclusive classrooms is also equally important (Sharma, Forlin, and Loreman 2008). Research indicates that to prepare teachers who genuinely believe that teaching in inclusive classrooms is an opportunity, not a burden, and that inclusion benefits all learners. Teachers also need to embody the 3Hs - *the heart* (positive beliefs about inclusion), *the head* (theoretical knowledge and skills to teach all learners together) and, *the hands* (practical ability to teach all learners together) (Sharma 2018). Teacher education programs should also comprehensively cover information on the 'what', 'why' and 'how' of inclusion (Sharma 2018). Focusing solely on 'how' to teach students with additional needs in inclusive classrooms may increase teacher anxiety as they begin viewing inclusion as an extra responsibility (Sharma, Forlin, and Loreman 2008).

To ensure effective inclusive schooling systems there is a need to base decision making on evidence. This paper reports findings regarding the validation of the *Teacher Efficacy for Inclusive Practices* (TEIP) scale that has been modified for use in Kazakhstan and the subsequent analysis of teachers' perceived efficacy in implementing inclusive education. This will guide future planning to ensure that teachers are well prepared and suitably trained for providing effective education for learners with SEND. The validated TEIP-Kazakhstan scale (Sharma, Loreman, and Forlin 2012) was used to undertake an extensive review of the current efficacy perceptions of 6186 teachers.

Theoretical framework

The theoretical framework that underpins this research was guided by Bandura's theory of self-efficacy beliefs. According to Bandura (1977), just having knowledge and skills is not sufficient, an individual must also be convinced that they can perform the task successfully in typical circumstances and more specifically in difficult circumstances. An individual thus needs to have both knowledge and skills relevant to a profession and high efficacy beliefs to be able to perform a task successfully. Bandura defined self-efficacy beliefs as, 'People's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances' (Bandura 1986, 391). Bandura, however, cautioned about one critical aspect of self-efficacy. He states that self-efficacy *beliefs* do not

always match a person's actual capability to perform the task. Most individual tend to overestimate their actual capabilities. about one's capability, and as such, does not necessarily match one's actual capability in a specific domain. Bandura states that overestimation is not concerning as overestimation in one's ability could actually increase an individual's efforts and persistence during challenging times.

Self-efficacy is a highly domain-specific construct (Bandura 2006), with people judging their efficacy in relation to a specific domain. For example, a teacher who has high efficacy in teaching English does not necessarily have high efficacy in teaching Maths or vice versa. It is, therefore, necessary to note high efficacy beliefs in teaching may not mean that a teacher will also be highly efficacious in teaching in an inclusive classroom. Research on teaching efficacy beliefs to teach in inclusive classrooms has increased dramatically over the last two decades (Wray, et al. 2022). There could be many reasons behind the increase in the number of studies. Researchers now agree that teaching efficacy is a robust predictor of inclusive teaching practice (Wray, et al. 2022, as there is evidence that teachers with high efficacy beliefs are most likely to use more inclusive teaching practices (Sharma and Sokal 2016). In this study, we were interested in examining teacher efficacy beliefs of teachers to teach in inclusive classrooms in Kazakhstan. By measuring teacher efficacy beliefs to teach in inclusive classrooms, the domains where teachers from the country had high efficacy beliefs in specific aspects of inclusive education could be determined, as well as domains where they had relatively lower levels of self-efficacy beliefs.

The Kazakhstan context

Legislative and institutional frameworks in Kazakhstan, and the interaction between state and civil society influence and shape policy (Rollan and Somerton 2021). In 2002, the Concept of State Supports for Non-Commercial Organizations introduced a system of social contracts with state supports for projects in different fields; with education being one such field (Pierobon 2016). In the area of inclusive education, there has been contribution from non-governmental organisations (NGOs) in the active engagement of policy reform and implementation. The NGOs facilitate the provision of support to schools and professionals, contribute to promoting societal perception of people with disability, and inform parents and the broader public about the needs required by children with

SEND (Rollan and Somerton 2021). For example, one state-requested, NGO-introduced project, is the establishment of school-based resources centres. There has been general indication from stakeholders that they have found positive impacts of these resource centres in the continued development of inclusive education in Kazakhstan (Helmer et al. 2023; Somerton et al. 2021).

Since its independence in 1991, Kazakhstan's educational sphere has seen significant reforms to create state programs aimed at improving the education system to meet international standards. As part of its program on 'the approval of conceptual approaches to the development of inclusive education in the Republic of Kazakhstan' (Ministry of Education and Science 2015), and the ratification of the United Nations Convention on the Rights of Persons with Disabilities in 2015, Kazakhstan has sought to make the majority of their schools inclusive (Allan and Omarova 2022). The Ministry of Education and Science of the Republic of Kazakhstan's declaration to transition to an inclusive education model by 2020 (Rollan and Somerton 2021), was implemented to cater for students with SEND. This was supported by the adoption of the Law of the Republic of Kazakhstan 'Amendments and Additions to Certain Legislative Acts of the Republic of Kazakhstan on Issues of Inclusive Education' (No. 56-VII ZRK, June 26, 2021).

This law introduced major amendments and additions to the four Laws of the Republic of Kazakhstan: 'Social and Medical-Pedagogical Support for Children with Disabilities', 'The Rights of the Child in the Republic of Kazakhstan', 'Social Protection of Persons with Disabilities in the Republic of Kazakhstan', and 'Education'. It also provides definitions for individuals (children) with special educational needs, outlines the assessment of these needs, strengthens the role of school psychological and pedagogical support services, enhances the capacity of general education schools to adapt curricula, and expands the rights of individuals (children) with special educational needs to choose the form of education within the options provided by the education system, considering their individual developmental characteristics. Moreover, it establishes the responsibility of government bodies and the heads of educational organizations for creating conditions for inclusive education (<https://adilet.zan.kz/rus/docs/Z2100000056>). This has led to a clear acknowledgement of the importance of the establishment of inclusive education for students with SEND and the provision of equal access for all (Nadirova 2024).

Stakeholders, including teachers, parents, and government representatives, have proposed that in many instances inclusive classrooms provide the best educational environments (Tomini et al. 2014). Following the reform in Kazakhstan towards inclusive education, increasingly, more students have access to general, inclusive, or special schools and social institutions. There is evidence, conversely, that inclusive education in Kazakhstan is following more of an integrated medicalised rather than an inclusive social approach that can be ‘narrowly viewed as placing children with special education needs and disability in mainstream schools’ (Passeka and Somerton 2024, p. 1397).

In catering for students with SEND, Kazakhstan’s Ministry of Education notes there has been an increase in the network of special education organisations, and over 1071 school-based inclusion support rooms and 22 advisory centres established (Ministry of Education 2024a). In 2022 more than 30% of students with SEND relied on special schools (14%), special classes (10%), and home-school (12%) (Gurin, Udayan, and Zhaxylykova 2024). For those in inclusive schools, students with SEND were, nonetheless, generally educated in separate classrooms by special educators (Passeka and Somerton 2024). With more than 86% of schools in 2024 actively creating conditions for inclusive education, Kazakhstan has plans for a national model to foster a barrier-free and inclusive educational environment (Abuova 2024). To support this the Government is collaborating with large national companies to undergo a major building project to provide 369 new schools named ‘comfortable schools’ to be opened between 2024 to 2026. These schools will be designed specially to accommodate 740000 students providing universal design of learning to ensure the inclusion of students with SEND (Ministry of Education 2024b).

Early assessment and diagnosis are rigorous and consider the child’s function and context. In interviews with key stakeholders, however, it was noted that ‘the experts undertaking these tasks had a strongly medicalized focus and this appeared to dominate the way in which children were designated as disabled’ (Allan and Omarova 2022, 1077). This medical view of disability can become an impediment to inclusion, as it does not necessarily consider a wider range of students with learning difficulties and additional needs. It has also led to a view that students with SEND are best taught by a special educator, (Rollan and Somerton 2021). While special educators have potential to advocate for the inclusion of students with SEND, they are still perceived as mainly providing support for students in

separate classes or separate educational settings (Passeka and Somerton 2024).

Potential barriers to inclusion

Maulsharif, Nurbekova, and Naimanova (2022) conducted a systematic analysis of international articles, including Kazakhstan, published 2010-2021, and found that inclusive education was perceived as deeply social in nature and that subjective attitudes to inclusiveness, lack of experience, and insufficient preparation, posed barriers to successful inclusion. The authors identified teachers as important in overcoming these barriers, whereby their prior experience with persons with disabilities, teaching qualifications, training and pedagogical experience work together to influence their attitude toward inclusive education. The authors concluded that teachers with ‘more positive attitudes and greater knowledge of inclusiveness will likely to be more effective in inclusive classrooms’ (Maulsharif, Nurbekova, and Naimanova 2022, 107); with a higher understanding and acceptance of inclusiveness in the teacher community being needed to bridge the gap between policy and practical implementation. In recent years researchers have identified an increasing trend to home-schooling when parents perceive that regular schooling is not meeting the needs of their children with SEND (Forlin and Chambers 2024).

Teacher preparation

Inadequate preparation of future teachers has been identified as a barrier to inclusive education both internationally and in Kazakhstan, where pre-service teachers are provided with only ‘basic knowledge in the field of inclusive education, but it is not enough for practical skills in teaching methods for children with special education need’ (Akmonshak, Gulmira, and Samal 2023, 116). According to Agavelyan et al. (2020), teachers generally hold positive perceptions of people with SEND, but are critical of the idea of inclusive education and ‘not ready to accept in their class children who need an individualized curriculum and children with complicated disorders’ (Agavelyan et al. 2020, 16).

When examining teacher preparation, colleges and universities in Kazakhstan have not developed adequate curricula for inclusive education. Inclusive education courses have been found to be shallow and lacking in detail, with methodological training seeming to prepare teachers ‘to work more in a special school than inclusive school’ (Makoelle and Burmistrova 2021, 11). Pre-service teachers lack

training and practical experience for teaching in an inclusive classroom, being insufficiently prepared for catering for the diversity of student abilities and additional needs (Makoelle 2020, 2022; Makoelle and Burmistrova 2021).

Teachers also face a lack of adequate resources and methodological materials to support students with SEND, with pedagogical approaches generally focusing on knowledge development rather than skills acquisition (Gurin, Udayan, and Zhaxylykova 2024). In order to overcome these barriers, teachers need to be adequately prepared and resourced; this entails having necessary knowledge and skills, and psychological readiness for inclusive practice (Kudarinova et al. 2023; Nadirova 2024). These findings highlight the importance of high quality initial teacher education and induction programmes for Kazakhstan, through supported transition and mentoring in schools, and evaluation mechanisms throughout the teacher's career progression (OECD Education Policy Perspectives 2020).

Teacher efficacy

A lack of adequate preparation and resource has an impact on teachers' attitudes towards inclusive education (Wray et al. 2022; Sharma et al. 2024). Previous interviews with relatively small numbers of teachers to ascertain the perceptions and attitudes of classroom teachers, special education teachers (while currently referred to as defectologists in Kazakhstan, such outdated terms are gradually being replaced with more acceptable ones), and educational assistants, revealed concerns with methodological and social factors. Seen as key drivers of the successful implementation, teachers in Kazakhstan display mixed attitudes towards inclusive education (Dyussenbayeva et al. 2022; Prisiazhniuk et al. 2024 ($n = 382$); Yussupova and Issabayev 2022 ($n = 25$)). While policy promotes inclusive schooling, nevertheless, a medicalised model still ensues. Specifically, there were concerns about their own lack of knowledge and skills to teach students with SEN, and the difficulty in ensuring adequate attention to all students in an inclusive classroom. Teachers also expressed concern about a curriculum that 'had not been structured in a way that makes it easy to implement some ideals of inclusive education' (Makoelle 2022, 419).

Materials and methods

Data collection procedure

This study engaged 16,237 public school teachers from across all 17 regions and the three major cities

of the country, including major cities and urban schools (Urban) and rural schools (Rural). The survey forms were distributed using Google's online platform as it was easily accessible to all teachers. An invitation outlining the study's purpose, along with a link to participate, was sent to the education departments of all 17 regions and the three major cities. The survey was made available in three languages: Kazakh (the official language), Russian, and English. The study was conducted in strict accordance with the laws of the Republic of Kazakhstan, adhering to all relevant ethical principles and standards. The ethical considerations of the research methodology were thoroughly reviewed and approved by the Academic Council of the Academy (BR21882231). The anonymity of the teachers was always maintained. The research team did not have access to the names or any other identifying information of the teachers. Only group data were used for data analysis.

Instrument

The data was collected using a two-part questionnaire. The first part gathered teachers' demographic information related to teachers' gender, age, highest level of education, length of teaching experience, and region. Part two of the scale consisted of the Teacher Efficacy for Inclusive Practices scale (TEIP) developed in 2011 (Sharma, Loreman, and Forlin 2012) to measure the perceived personal efficacy of teachers for inclusive education. Wray et al. (2022) recently undertook a systematic review of research undertaken since 2010 to examine how teacher efficacy to teach in inclusive classrooms has been measured and the factors that influence teacher efficacy. She found out that TEIP was the most commonly used scale globally. She found that out of 71 studies in her review, 38 employed TEIP. The scale has been found to highly reliable across various international contexts (Matić et al. 2023; Pivarč 2024; Selenius and Ginner Hau 2024; Vogiatzi et al. 2022, Wray, et al. 2022). The scale contains 20 items consisting of three subscales relating to efficacy to use inclusive instruction (Factor One); efficacy for managing behaviour (Factor Two); and efficacy in collaboration (Factor Three). A six-point Likert scale is employed that uses Strongly Disagree (1), Disagree (2), Disagree Somewhat (3), Agree Somewhat (4), Agree (5), and Strongly Agree (6) anchors. A higher score indicates more positive feelings of teaching self-efficacy specific to inclusive education.

Participants

A total of 6186 teachers participated in the study, of which 3,821 (61.8%) worked in rural schools and 2,365 (38.2%) worked in urban schools. The study was conducted in three cities of republican significance and 17 regions in Kazakhstan, encompassing both urban and rural schools. To ensure that all schools had an equal chance of being included in the sample, a random selection method was applied using the existing lists of schools in the National Educational Database. Schools were then selected for participation in the study using a random number generator based on the list of each category of educational organizations. There were, nonetheless, huge variations across the country. The highest proportion of teachers came from Abay ($n = 835$, 14%), followed by Kyzylorda (12.8%) and Mangystau (13%) regions. These three regions constituted around 40% of the participating teachers. Of these 6186 teachers, a majority indicated working in rural schools ($n = 3821$, 62%) and the rest of them were working in urban schools. An overwhelming majority of participating teachers were female ($n = 5383$, 87%). The data in terms of the highest level of education suggested that an overwhelming majority ($n = 5736$, 93%) have attained higher or postgraduate education. A small proportion of the teachers had completed either technical and vocational post-secondary education ($n = 263$, 4.3%) or general secondary education ($n = 187$, 3%). In terms of the length of teaching experience, the largest group, 28.0% ($n = 1735$), reported having 26 or more years of teaching experience. The next larger group that closely followed this group had an experience of 6-15 years (29.6%, $n = 1833$). Around 19.4% of teachers had a teaching experience of less than 5 years. It consisted of two groups of those who had an experience of 1-5 years (15%, $n = 931$) or less than 1 year (4.3%, $n = 266$).

Results

There were three key objectives of the research. The first objective was to examine the validity and reliability of the TEIP in the Kazakhstan context. The second was to determine the level of efficacy of the teachers in teaching in inclusive classrooms and the third was to determine if there were significant differences based on teacher's demographic variables.

TEIP validity and reliability for Kazakhstan context

SPSS 28.0 and R version 4.4.1 were used for data analysis. Confirmatory factor analysis (CFA) was

conducted to examine the construct validity of the revised TEIP scale. To estimate the model fit of the CFA models, R version was used to determine the maximum likelihood estimation with robust standard errors method (MLR). Since the Chi-square statistic (χ^2) was sensitive to sample size (Schermelleh-Engel, Moosbrugger, and Müller 2003), the comparative fit index (CFI) was employed, Tucker Lewis index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Error of Approximation (SRMR) to estimate the quality of the CFA models. According to the recommendation of Hu and Bentler (1999), values larger than 0.90 for the TLI and CFI indices, the RMSEA, and the SRMR below 0.08 indicated an acceptable model fit.

Confirmatory factor analysis (CFA)

Based on the theoretical assumptions of the original study (Sharma, Loreman, and Forlin 2012), the initial model with a three-factor structure was preliminarily evaluated. The initial model fit indices revealed marginally acceptable results ($\chi^2(df = 132) = 3005.827$, CFI = 0.912, TLI = 0.898, RMSEA = 0.080, SRMR = 0.042), with the TLI slightly below the threshold of 0.90 (Hu and Bentler 1999), see Figure 1. Although the standardized factor loading for Item 1 ($\lambda = 0.49$) was slightly below the commonly accepted threshold of 0.50 (Bagozzi and Yi 1988), this item was retained in the following structure model, as it addressed an important dimension of efficacy in managing behaviour (EMB), removing it would compromise the scale's content validity (Hair et al. 2013).

Subsequently, according to the suggestions of modification indices, a link between the error term of items 12 and 13 on the efficacy in collaboration (EC) factor was allowed. Compared to other items, those two emphasized the similar importance of collaborating with other professionals and staff (Sharma, Loreman, and Forlin 2012). A similar analytical step was also made in previous validation studies of the TEIP scale (e.g. Malinen, Savolainen, and Xu 2012; Pivarč 2024; Yada, Tolvanen, and Savolainen 2018). After this modification, Figure 2 shows that the final model fit was acceptable ($\chi^2(df = 131) = 2585.854$, CFI = 0.925, TLI = 0.912, RMSEA = 0.074, SRMR = 0.040). Based on the results, it was possible to confirm that the three-factor structure of the revised TEIP scale aligned with theoretical assumptions.

The TEIP- Kazakhstan version found to be highly reliable and valid for the local context. The reliability (alpha) scores were 0.83, 0.85 and 0.86 for Efficacy in managing behaviour, Efficacy in collaboration, and

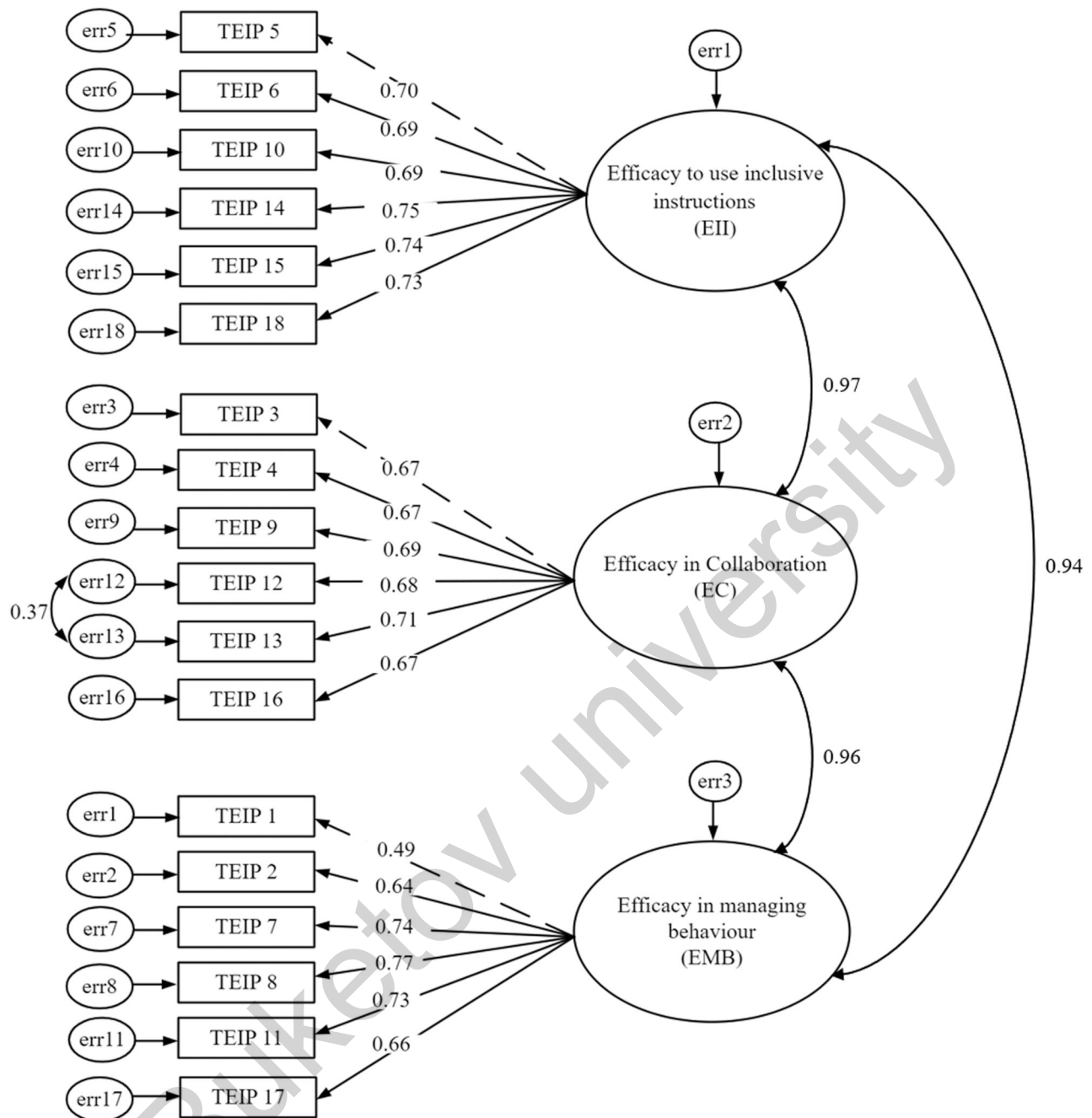


Figure 1. Results of CFA for the TEIP scale including abbreviations with subdimensions.

Efficacy to use inclusive instructions sub-scales respectively. The alpha coefficient for the total scale was 0.94.

Research question: what level of teaching efficacy beliefs do teachers have to teach in inclusive classrooms across the country?

Teachers' teaching efficacy beliefs on individual items in ascending order are presented in Table 1. The mean scores showed that the teachers had the lowest efficacy on

items relating to others about laws and policies on inclusion ($M = 4.18$), making their expectations clear about behaviour ($M = 4.22$), addressing physically aggressive behaviours in their classrooms ($M = 4.31$), involving parents in school activities ($M = 4.32$), and preventing disruptive behaviour in their classrooms ($M = 4.34$). They obtained the highest efficacy scores on items relating to making parents feel comfortable coming to school ($M = 4.67$), providing appropriate challenges to very capable students ($M = 4.74$), providing alternate explanations

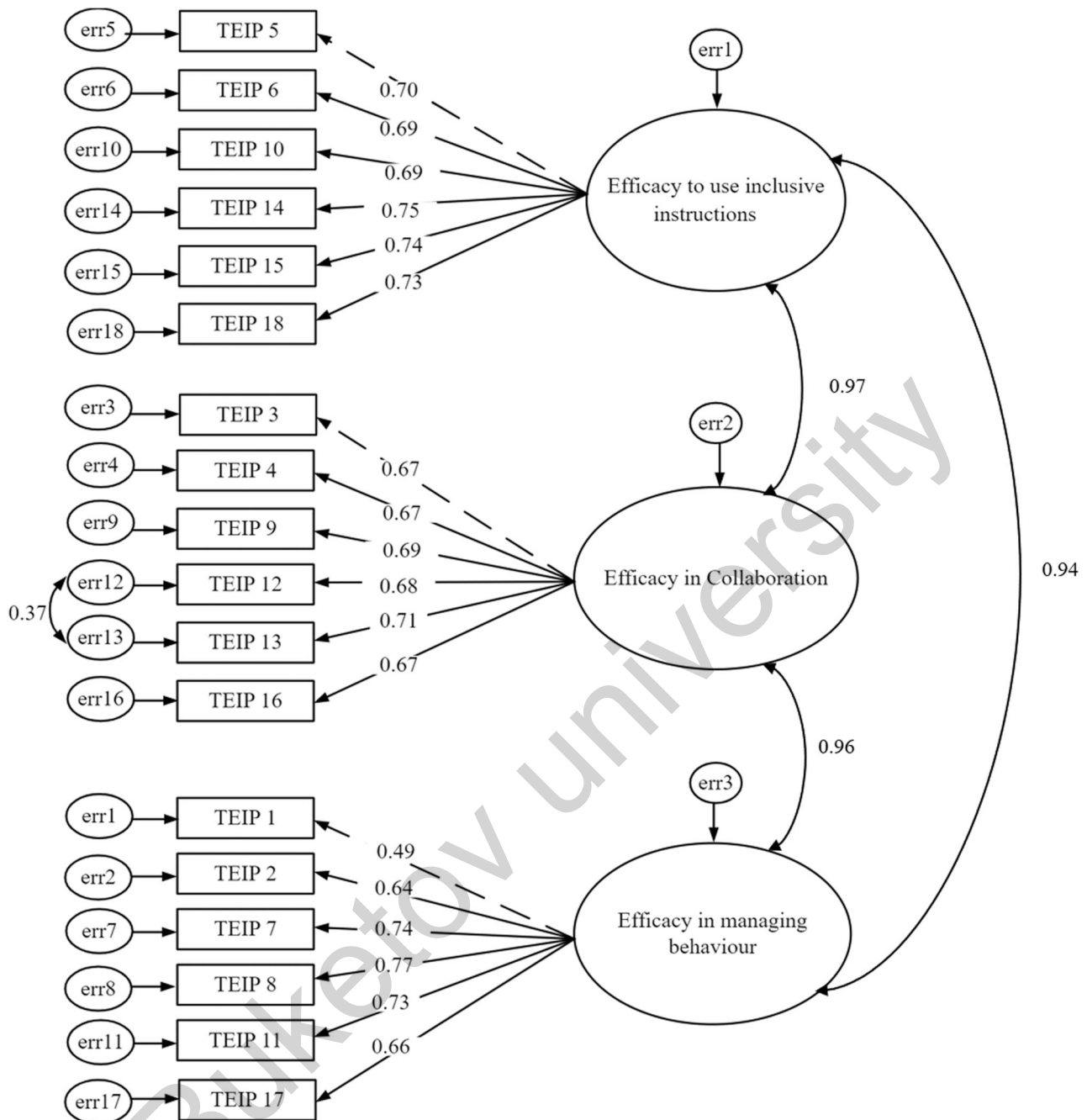


Figure 2. Final model of CFA for the TEIP scale including abbreviations with subdimensions.

or examples when students are confused ($M=4.75$), and their ability to get students to work in small groups ($M=4.78$). They obtained the highest mean score on the item relating to following classroom rules ($M=4.87$). It is important to note that despite differences in mean scores on different items including on those where the teachers obtained the lowest ($M=4.18$) and highest scores ($M=4.87$), the difference between the item mean scores was not huge. It is also important to note that the total mean scores on none of the items reached above five.

The factor scores on the three sub-scales were 4.45 ($SD = 0.77$), 4.48 ($SD= 0.77$) and 4.66 ($SD 0.73$) for managing behaviour, collaboration and inclusive instruction respectively. The total mean score on TEIP was 4.53. The difference between the three sub-scales was not statistically significant. The scores, however, are clearly indicative that teachers feel relatively less confident in managing behaviour and collaborating with others. They were slightly more confident in using inclusive instructions.

Table 1. Descriptive statistics on TEIP items ($N = 6186$).

Item description (ascending means)	M	SD
21. I am confident in informing others who know little about laws and policies relating to the inclusion of students with disabilities	4.18	1.09
6. I can make my expectations clear about student behavior	4.22	1.20
22. I am confident when dealing with students who are physically aggressive	4.31	1.09
14. I am confident in my ability to get parents involved in school activities of their children with disabilities	4.32	1.05
12. I am confident in my ability to prevent disruptive behavior in the classroom before it occurs	4.34	1.02
15. I am confident in designing learning tasks so that the individual needs of students with disabilities are accommodated	4.42	1.07
13. I can control disruptive behaviour in the classroom	4.43	1.01
7. I am able to calm a student who is disruptive or noisy	4.50	1.07
17. I can collaborate with other professionals (e.g. itinerant teachers or speech pathologists) in designing educational plans for students with disabilities	4.53	1.05
9. I can assist families in helping their children do well in school	4.57	0.99
20. I can use a variety of assessment strategies (e.g. portfolio assessment, modified tests, performance-based assessment, etc.)	4.61	0.95
18. I am able to work jointly with other professionals and staff (e.g. aides, other teachers) to teach students with disabilities in the classroom	4.61	1.00
10. I can accurately gauge student comprehension of what I have taught	4.67	0.96
8. I can make parents feel comfortable coming to school	4.67	0.97
11. I can provide appropriate challenges for very capable students	4.74	0.96
23. I am able to provide an alternate explanation or example when students are confused	4.75	0.87
19. I am confident in my ability to get students to work together in pairs or in small groups	4.78	0.90
16. I am able to get children to follow classroom rules	4.87	0.90

Means range from Strongly Disagree (1), Disagree (2), Disagree Somewhat (3), Agree Somewhat (4), Agree (5), and Strongly Agree (6).

Table 2. Independent samples t-test results for gender and location across dependent variables.

Dependent variable	Group	N	M	SD	t	df	p	Mean difference	95% CI (lower, upper)
TEIP total scale score	Female	5383	4.54	0.67	2.15	6184	.031	0.064	[0.006, 0.122]
	Male	803	4.47	0.90					
	Rural	3821	4.55	0.71					
	City	2365	4.50	0.70					
Inclusive instruction	Female	5383	4.68	0.70	4.08	6184	<.001	0.13	[0.07, 0.19]
	Male	803	4.55	0.93					
	Rural	3821	4.66	0.74					
	City	2365	4.66	0.73					
Collaboration	Female	5383	4.49	0.74	0.40	6184	.690	0.006	[-0.023, 0.035]
	Male	803	4.40	0.96					
	Rural	3821	4.50	0.78					
	City	2365	4.46	0.76					
Managing behaviour	Female	5383	4.44	0.74	-0.96	6184	.337	-0.03	[-0.09, 0.03]
	Male	803	4.47	0.92					
	Rural	3821	4.49	0.76					
	City	2365	4.38	0.78					

Means range from Strongly Disagree (1), Disagree (2), Disagree Somewhat (3), Agree Somewhat (4), Agree (5), and Strongly Agree (6).

Research question two: are there any significant differences based on teachers' background variables of gender, school location, teaching experience, and educational levels

Table 2 presents data on TEIP and its three factors and how it was related to the variables of gender and location. An independent-sample t-test was conducted to compare scores on the dependent variables of TEIP, the three factor scores and between males and females, and between rural and city teachers. Female teachers ($M = 4.54$, $SD = 0.67$) scored significantly higher than males ($M = 4.47$, $SD = 0.90$), $t(6184) = 2.15$, $p = 0.031$ on TEIP Total Scale Score score, with a mean difference of 0.064 (95% CI [0.006, 0.122]). Rural teachers ($M = 4.55$, $SD = 0.71$) also scored significantly higher than city teachers ($M = 4.50$, $SD =$

0.70), $t(6184) = 2.62$, $p = 0.009$, with a mean difference of 0.053 (95% CI [0.013, 0.093]). For inclusive instruction, females ($M = 4.68$, $SD = 0.70$) scored significantly higher than male counterparts ($M = 4.55$, $SD = 0.93$), $t(6184) = 4.08$, $p < 0.001$, with a mean difference of 0.13 (95% CI [0.07, 0.19]). No significant difference, however, was found between rural ($M = 4.66$, $SD = 0.74$) and city teachers ($M = 4.66$, $SD = 0.73$), $t(6184) = 0.40$, $p = 0.690$.

Female teachers ($M = 4.49$, $SD = 0.74$) also scored significantly higher than males ($M = 4.40$, $SD = 0.96$), $t(6184) = 2.73$, $p = 0.006$ on Collaboration. The mean difference between their scores was 0.09 (95% CI [0.03, 0.15]). Rural teachers ($M = 4.50$, $SD = 0.78$) also scored significantly higher than city teachers ($M = 4.46$, $SD = 0.76$), $t(6184) = 2.80$, $p = 0.005$, with

a mean difference of 0.04 (95% CI [0.013, 0.067]). There was no significant difference between females ($M=4.44$, $SD = 0.74$) and males ($M=4.47$, $SD = 0.92$), $t(6184) = -0.96$, $p=0.337$ on Managing Behaviour with a mean difference of -0.03 (95% CI [-0.09, 0.03]). However, rural teachers ($M=4.49$, $SD = 0.76$) scored significantly higher than city teachers ($M=4.38$, $SD = 0.78$), $t(6184) = 6.98$, $p < 0.001$, with a mean difference of 0.11 (95% CI [0.08, 0.14]) on this Factor.

Educational qualification on dependent variables

A series of one-way ANOVAs were conducted to examine the effects of teaching experience (less than 1 year, 1-5 years, 6-15 years, 16-25 years, 26 years or more) and highest educational qualification (general secondary education, technical and vocational post-secondary education, higher and postgraduate education) on four dependent variables: TEIP Total Scale Score, inclusive instruction, collaboration, and managing behaviour.

Teaching experience

TEIP Total Scale Score: There was a significant although small difference in TEIP Mean scores across experience categories, $F(4, 6181) = 2.94$, $p = .019$. Mean scores ranged from 4.51 (less than 1 year) to 4.58 (26 years or more). The Scheffé post hoc test revealed no significant group differences.

Inclusive Instruction: Significant differences were observed, $F(4, 6181) = 3.233$, $p=0.012$, with mean scores ranging from 4.65 (less than 1 year) to 4.71 (26 years or more). With higher degrees of efficacy being noted for increase in experience, no significant differences were identified *via* the Scheffé post hoc test.

Collaboration: A significant difference was noted $F(4, 6181) = 2.719$, $p=0.028$, with mean scores ranging from 4.43 (less than 1 year) to 4.53 (26 years or more). A similar trend appeared although the Scheffé post hoc test did not find specific differences among the groups.

Managing Behaviour: This variable approached significance, $F(4, 6181) = 2.217$, $p=0.065$, with scores varying from 4.45 (less than 1 year) to 4.49 (26 years or more). No significant group differences were determined.

Highest educational qualification

TEIP Total Scale Score: Significant differences were found among educational qualifications, $F(2, 6183) = 7.339$, $p < .001$. Mean scores were 4.33 (general

secondary), 4.53 (technical/vocational), and 4.53 (higher/postgraduate). With a trend towards increased efficacy with higher qualifications, the Scheffé test, however, indicated no significant differences among the groups.

Inclusive Instruction: There was a significant difference, $F(2, 6183) = 12.640$, $p < 0.001$, with means of 4.40 (general secondary), 4.63 (technical/vocational), and 4.67 (higher/postgraduate). With a similar trend towards higher qualifications being associated with increased efficacy, the Scheffé post hoc test showed no specific group differences.

Collaboration: Significant differences were observed, $F(2, 6183) = 6.249$, $p = .002$. Mean scores were 4.29 (general secondary), 4.49 (technical/vocational), and 4.49 (higher/postgraduate). A similar trend was found although no significant differences noted in post hoc comparisons.

Managing Behaviour: The ANOVA approached significance, $F(2, 6183) = 2.622$, $p = .073$. Mean scores were 4.32 (general secondary), 4.46 (technical/vocational), and 4.45 (higher/postgraduate). Although those with only general secondary continued to show the lowest efficacy, no significant differences found.

The analyses reveal significant differences in the TEIP overall mean, and the two factors of inclusive instruction, and collaboration scores based on both teaching experience and highest educational qualification. Post hoc comparisons using the Scheffé test, however, did not identify specific differences among the groups for any dependent variable. Managing behaviour exhibited a near-significant trend related to teaching experience, warranting further investigation.

Discussion

As Kazakhstan continues to work towards greater inclusion of students with SEND, gaining evidence on which to base further decision-making is critical for ensuring a positive way forward. Obtaining data on teachers' perceived efficacy with implementing inclusive education will provide a baseline for reviewing implementation practices for preparing teachers effectively during this change process. This will guide future planning to ensure that teachers are well prepared and suitably trained for providing effective education for all learners.

The Government of Kazakhstan has set an ambitious goal to achieve Sustainable Development Goal 4 (SDG 4), which focuses on ensuring equal and quality education for all. In addition, Kazakhstan has taken on international commitments to create conditions

for inclusive education. Modern inclusive policies aim to shift from a medical model of special educational needs to a socio-pedagogical model. This means the focus is no longer on a child's diagnosis, but on their individual needs.

It is important to note that inclusion has different meaning across different contexts and it is critical to be careful when interpreting results of this study. Internationally, inclusive classrooms can be given a wide range of interpretations from the inclusion of all students, regardless of need, in the same classrooms, to providing special groups for learners depending upon need, in separate classes.

Although internationally, there is a push for inclusion of all learners in regular classrooms, Kazakhstan has taken a more cautious approach. At the legislative level, 'inclusive education' in Kazakhstan is officially defined as 'a process that ensures equal access to education for all learners, taking into account their special educational needs and individual abilities' [https://adilet.zan.kz/rus/docs/Z070000319_].

Educational organizations apply both full and partial inclusion. Full inclusion means children with special needs study in regular classes alongside their peers. Partial inclusion means special classes are opened within regular schools. Special schools continue to play an important role and many learners with disabilities are educated in special schools. In all cases, including education in special schools, parents or legal guardians have the right to choose the type of educational program for their child [<https://adilet.zan.kz/rus/docs/V1800017553>].

Despite the challenges, Kazakhstan is steadily moving towards building an inclusive society (Butabayeva et al. 2022). The country is working to ensure that every child has the right to quality education and full participation in society. The country recognises further, that without adequate preparation of regular school educators, they will continue to struggle in implementing inclusive education, which may lead to many learners with disabilities not receiving adequate education. The self-efficacy of all teachers in this research indicated an overall agreement that they were reasonably confident across all three aspects of inclusive education, namely, using inclusive instruction, collaboration, and managing behaviour, measured by the TEIP. Nevertheless, this does not consider what type of inclusive practices they have experienced. The careful adoption and contextualization of the concept of inclusion from other countries is necessary when establishing inclusion in Kazakhstan.

A key factor for supporting inclusion is the effectiveness of training and professional development for teachers (Ackah-Jnr et al. 2025). Not only does this vary between countries, but in many places between districts and training institutions within them. A lack of consistency in teacher preparation has been highlighted extensively as a major concern for schools (e.g. Donath et al. 2023; Kudarinova et al. 2023; OECD Education Policy Perspectives 2020; Woodcock et al. 2022). According to Ackah-Jnr et al. 2025, 1, their research suggests that:

pre-service training essentially leverages foundational and new learning, knowledge, and capacity acquisition for inclusive education... teacher preparation programmes need to be considered as continuing synergistic and must attend to contextual influences.

By utilising an existing international measuring scale, and validating this for use in the Kazakhstan context, this will provide an effective way to identify the training needs of teachers and monitor their progress over time. Data obtained from the validation process with an extremely large data set of over 6000 teachers across the whole country, has confirmed the modified TEIP-Kazakhstan to be highly reliable and valid for the local context. The total scale score and the three subscales related to efficacy in managing behaviour, efficacy in collaboration, and efficacy to use inclusive instructions, all obtained high reliability scores (>0.83), indicating a strong and reliable scale. The self-efficacy of all teachers in this research indicated an overall agreement that they were reasonably confident across all three aspects of inclusive education, namely, using inclusive instruction, collaboration, and managing behaviour, measured by the TEIP. Specifically, female teachers reported greater efficacy than males in inclusive instruction and collaboration. Although this is a positive outcome, it is pertinent to recall that Bandura proposed that a person's beliefs may not necessarily match their capacity to meet their expectations. Yet while many people tend to overestimate their actual capabilities, Bandura (1986), concedes that this may enhance their efforts and encourage persistence to achieve their expectations.

While minimal differences were found across all teachers, higher levels of training, increased experience, gender, and teaching in rural areas, showed small differences in some respects. Appropriate teacher education is seen as critical for ensuring both knowledge and skills for preparing teachers for inclusion (Akmonshak, Gulmira, and Samal 2023, Makoelle 2020, 2022; Makoelle and Burmistrova 2021; Walker et al. 2024). Data revealed that overall,

teachers with higher qualifications held the highest degrees of efficacy, indicating a positive outcome of higher training. This is an important finding as since 2016 the Kazakhstan government has been funding increased opportunities for teachers to upskill in inclusive education. Professional development continues to be focussed on the principle of Universal Design for Learning to ensure effective inclusion of all students. It is proposed that the certification of teacher assistants through newly developed course programs, will further assist schools to employ better qualified assistants to support inclusive education (<https://adilet.zan.kz/rus/docs/P2300000249>). Although the mean difference for increasing efficacy is significant according to increased levels of training, the mean differences are still minimal.

Considerable policy changes in Kazakhstan in recent years has provided a strong framework for the country's move towards an inclusive approach to education. The main directions for the development of inclusive education in Kazakhstan are outlined in the Education Development Concept for 2023–2029, which includes indicators for creating conditions for inclusive education and providing special psychological and pedagogical support for children with disabilities. An inclusive educational environment will be established on an ergonomic basis, incorporating a physically barrier-free, supportive environment, along with methodological, staffing, and other resources to ensure quality and accessible education.

This planned national model to develop a barrier-free and inclusive educational environment is grounded upon the development of purpose-built schools (Abuova 2024). To support the inclusive education policy and preparation of teachers as inclusive practitioners, the Kazakhstan government undertook a major building project to provide more than 350 specifically designed inclusive ('comfortable') schools between 2022–24 (Ministry of Education 2024b). As part of this project, 217 modern-format schools are planned to be commissioned by the end of 2025. These schools will provide a barrier-free, supportive environment to ensure quality and accessible education for all children, including those with special educational needs. While developed to accommodate all learners in an inclusive environment, they are also intended to act as pre-service practice schools and professional development learning communities for teachers. Long term evaluation of the impact of these schools on improving teacher preparation and in-service professional learning will be essential to confirm their importance and viability.

Conclusion

The validation of the TEIP-Kazakhstan version of the scale originally developed in 2011 (Sharma, Loreman, and Forlin 2012) and used extensively across many jurisdictions, will provide an effective way to identify the training needs of teachers and monitor their progress over time. It will also ensure a consistent approach that can be easily applied and analysed across all regions, while overcoming the lack of existing and limited research.

While the data revealed from this extensive study indicated that teachers were mostly confident with inclusive practices, this must be interpreted cautiously as this does not consider what type of inclusive experiences they have had across the different educational institutions in Kazakhstan. Previous research with a small number of teachers in Kazakhstan found that teachers were not sufficiently prepared for the specific challenges of working with students who display complex, disruptive behaviour and who may pose a threat to the health and well-being of other students (Kudarinova et al. 2023). This was confirmed with this extensive data base, where for a very large number of teachers, they were, similarly, the least efficacious about managing disruptive behaviour, compared to other aspects of inclusive education. It was found further, that as years of teaching experience increased, teachers indicated more positive levels of efficacy across the total scale. These differences were significant for inclusive instruction and collaboration. A greater emphasis on managing challenging behaviours is often associated with including students with SEND. This was perceived as the most challenging aspect of inclusive education by these teachers but would benefit from more in-depth exploration of the specific types of challenges that teachers are facing.

Even though the data set were large, a limitation occurred in the lack of representation of teachers working in major cities, and this should be addressed in future research. This is particularly pertinent as significant differences were found from this sample for those teaching in rural rather than city schools, who indicated greater confidence in managing challenging behaviours. Whether this is due to teachers having closer relationships with their students in smaller communities, smaller classes, or that behaviour is less severe in rural areas, requires further investigation. According to Makoelle and Burmistrova (2021), existing curricula in teacher preparation courses in Kazakhstan is inadequate for preparing all teachers for inclusion. A greater emphasis on practical skills training, especially in the area of behaviour management,

should be considered as critical. The extent to which the newly established 'comfortable' schools are able to address this, will need careful monitoring.

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