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Professional Competences in the Context of Inclusive Education: A Model Design

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Abstract: The most crucial factor influencing inclusive education is the preparation of educators for their professional activities. The aim of this study was to create and present a model for developing the professional competences of pre-service social educators in the context of inclusive education. The model reflected its main components: aim, objectives, methodological approaches, principles, technologies, study conditions, forms of training and stages of implementation (preliminary, main and final). The model introduced for professional activity in the conditions of inclusive education in the university's study process has the following characteristics: expediency, integrity, internal unity and consistency. The distinctiveness of the presented model lies in the possible application of taught subjects, such as the Inclusion in the Educational Environment module developed by the authors, educational internships and research work of students (RWS). Furthermore, the model is functional, based on a systemic and student-centred approaches and the principle of continuity of learning, i.e., lifelong learning (LLL).

Keywords: *Inclusive education, modelling, pre-service social educators, professional competences.*

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Introduction

Both the meaning and the prioritisation of inclusive education are currently being reconsidered in different countries. Inclusion must be seen as a continuous search for better ways to respond to the diversity of educational levels, ethnicities, cultures and physical and mental conditions. Inclusive education is about learning how to live with and learn from differences. Children and adults perceive these differences more positively, which provides an incentive for learning (Aincrow, 2005). For example, Stefanich (2001) noted that the school environment is ideal for bringing people with physical, cultural, emotional and intellectual differences together in a cohesive, mutually supportive group. The high-quality training students receive at the university plays a vital role in developing their professional competences. Undoubtedly, much attention is paid to the issue of developing professional competences in many countries. Although research in this area is growing rapidly, it remains insufficient. No model has yet been developed in educational sciences and practice that takes as its starting point a systematic, holistic, competency-based approach to developing the professional competences of pre-service social educators for work in inclusive education. The model that has been developed is based on approaches that consider the professional training of social educators for work in inclusive education as an integral system whose elements aim to develop professional competences.

Literature Review

The issues of professional training and readiness of educators to work in inclusive education have been studied by Alekhina et al. (2011), Aubakirova (2017), Forlin and Chambers (2011), Kuz'mina (2015), Mag et al. (2017), Makovec (2018), Movkebayeva et al. (2013), Oralkanova (2014), Pijl (2010), Rymkhanova (2019) and Stefanich (2001). According to Forlin and Chambers (2011), ensuring long-term support would require the greatest commitment from education systems to mentoring new educators and providing ongoing and appropriate professional development. A collaborative and systematic effort between universities and education systems is also warranted to ensure a coherent transition from educator preparation to competent and effectively trained inclusion educators. Alekhina et al. (2011) identified

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educators' readiness for professional work in the conditions of inclusive education as a parameter of the inclusion process.

Moreover, Kuz'mina (2015) contended:

Professional readiness presupposes the presence of a psychological component. The solution to any professional task is impossible outside the psychological context. The psychological component of professional readiness finds its expression in understanding the essence of inclusive education, the formation of values-knowledge about the peculiarities of the development of children with SEN (p. 67).

Kuz'mina characterised inclusive education as a socio-pedagogical phenomenon and argued for the need to develop the professional competence of education professionals to prepare them to work in inclusive conditions. Mag et al. (2017) identified professional development as a factor that can contribute to a healthy society. It has been argued that it is important not to ignore the personality traits of educators as they play a significant role in professional development and identity. Furthermore, it is crucial to equip pre-service educators with the necessary didactic and pedagogical skills at the university level (Makovec, 2018). Undoubtedly, discussing problems in education with colleagues and working together as a team is crucial for addressing many issues in inclusive education (Pijl, 2010). The term *competence* has been studied in depth by various researchers. In the academic literature, competence is considered a personality quality by Bozadzhiev (2007) and Spencer and Spencer (2005) and as an ability by Keen (1992) and Pukelis and Smetona (2012). Spencer and Spencer referred to competence as the fundamental quality of a person that is causally related to effective and best performance based on criteria at work or in other situations. According to Pukelis and Smetona (2012), competence is the practically tested ability to apply acquired knowledge, skills, values or attitudes holistically and purposefully in different work or learning situations and for personal and professional development.

Professional competences have been explored by Algozhayeva and Bashirova (2015), Berestova et al. (2020), Karlen et al. (2020), Kenworthy (2010), Magauova et al. (2021), Mintassova et al. (2020), Movkebayeva et al. (2013), Ninčević and Vukelić (2019), Nurgaliyeva et al. (2020), Nurmagambetova (2016) and Shkutina et al. (2017), among others. A successful graduate of the labour market should possess professional competences, make decisions independently and responsibly and determine the complexity of the professional task in all conditions. Berestova et al. (2020) studied the world experience of educators concerning the development of leadership and functional competences. Karlen et al. (2020) investigated educators' professional competences in self-regulated learning. According to Kenworthy (2010), competence is assessed by an individual's performance in a particular work-related role. Ninčević and Vukelić (2019) considered professional competence part of a discipline-oriented area of ability. Algozhayeva and Bashirova discussed the design of pedagogical competence as an integral component of lecturer training. Magauova et al. (2021) were guided by the document "The professional competences of social educators: A conceptual framework" (International Association of Social Educators, 2008). This comparative analysis of social educator training programmes used universities in Kazakhstan, Lithuania and Germany as examples. The nature and trends of social educator training in the three countries were identified, the general and specific competences of social educators were analysed, and the professional competences adopted by the global community were highlighted. Mintassova et al. (2020) studied professional competence in the learning process of medical physics. Movkebayeva et al. (2013) and Nurmagambetova (2016) pointed out a lack of professional training and professional skills of educators who will directly encounter children with disabilities in their classrooms in the near future and who provide effective and scientifically proven forms of teaching and methods of educators' readiness to work with children with disabilities.

The complete personal qualities and professional competences of the pre-service educator have required a high degree of independence of the graduate in the professional training phase. Professionals developing and training people with special educational needs (SEN) must have professional competencies to work in an inclusive education environment. Therefore, there is a growing need for high-quality training of qualified educators, especially social educators in this field.

Modelling in inclusive education has been proposed by Aubakirova (2017), Bubpha et al. (2012), Deno (1970), Hale (2008), Khitryuk (2013), Oralkanova (2014), Rymkhanova (2019) and Teschers (2020). In 1970, Deno proposed the cascade model, a social pedagogical intervention system that enables children with SEN to interact as effectively as possible in mainstream schools. Hale (2008) presented a learning model based on the active use of feedback: response to intervention. Khitryuk (2013) presented a didactic model for the development of inclusive education values in pre-service educators as an element of the behavioural component of psychological and pedagogical readiness for working with children with SEN in the conditions of inclusive education. Teschers (2020) proposed a holistic, inclusive education model for policy, curriculum and classroom development focused on a whole-child, whole-school, community and systems approach. According to Bubpha et al. (2012), "Management of education for children with special needs builds on the notion that every one of them is able to learn and develop if offered suitable learning opportunities" (p. 231). A necessary means of addressing inclusive education for this group is to place them in regular schools so they can learn with their classmates and have a satisfying social life. Oralkanova (2014) suggested a model for training the readiness of primary school educators to work in inclusive education. Rymkhanova (2019) introduced a pedagogical system for preparing pre-service educators for professional activity in the conditions of inclusive education.

The term "model" was defined by Minsky (1965) as follows:

To an observer B, an object A* is a model of an object A to the extent that B can use A* to answer questions that interest him about A. The model relation is inherently ternary. Any attempt to suppress the role of the intentions of the investigator B leads to circular definitions or ambiguities about "essential features" and the like (para. 2).

Groccia (2012) listed the characteristics of a "good" model as follows:

- plausibility,
- simplicity,
- explicitness,
- comprehensiveness,
- limited,
- usefulness,
- testable and
- aesthetic appeal.

Groccia (2012) contended that "models are communication tools to summarize, generalize, or transmit understanding to help make a complex process or concept more easily comprehended" (p. 4). According to Podnieks (2010), the limitation lies in the very principle of modelling: An attempt is made to replace one system with another. However, this may not be possible in all cases. Many systems are "too unique" to be modelled in detail.

The research aimed to create and present a model for developing the professional competences of pre-service social educators in the context of inclusive education. The model was designed in 2018 on the basis of Al-Farabi Kazakh National University. Theoretical research was carried out based on a literature review and empirical studies (Magauova & Makhambetova, 2020b; Magauova et al., 2021; Makhambetova & Magauova, 2022). The result is developed model for developing the professional competences of pre-service social educators in the context of inclusive education.

The Model for Developing the Professional Competences of Pre-Service Social Educators in the Context of Inclusive Education

According to Lamanauskas (2004), "the desired result of the educational process at the university is to prepare an active and competent specialist" (p. 179). Each problematic issue must be analysed in terms of factors such as interdisciplinarity and specialisation to understand the mission of modern education. The aim of the model was the phased development of the professional competences of pre-service social educators in the context of inclusive education during the study process at the university.–The developed model can be useful for other countries and universities preparing social educators.

Model Content

The model's objectives are as follows:

1. Identify the study conditions that contribute to the development of professional competences of pre-service social educators to work in conditions of inclusive education.
2. Use the holistic pedagogical process (HPP) capabilities to develop a model.
3. Develop and offer elective courses.

Follow the development of professional competences of pre-service social educators to work in inclusive education (Figure 1).

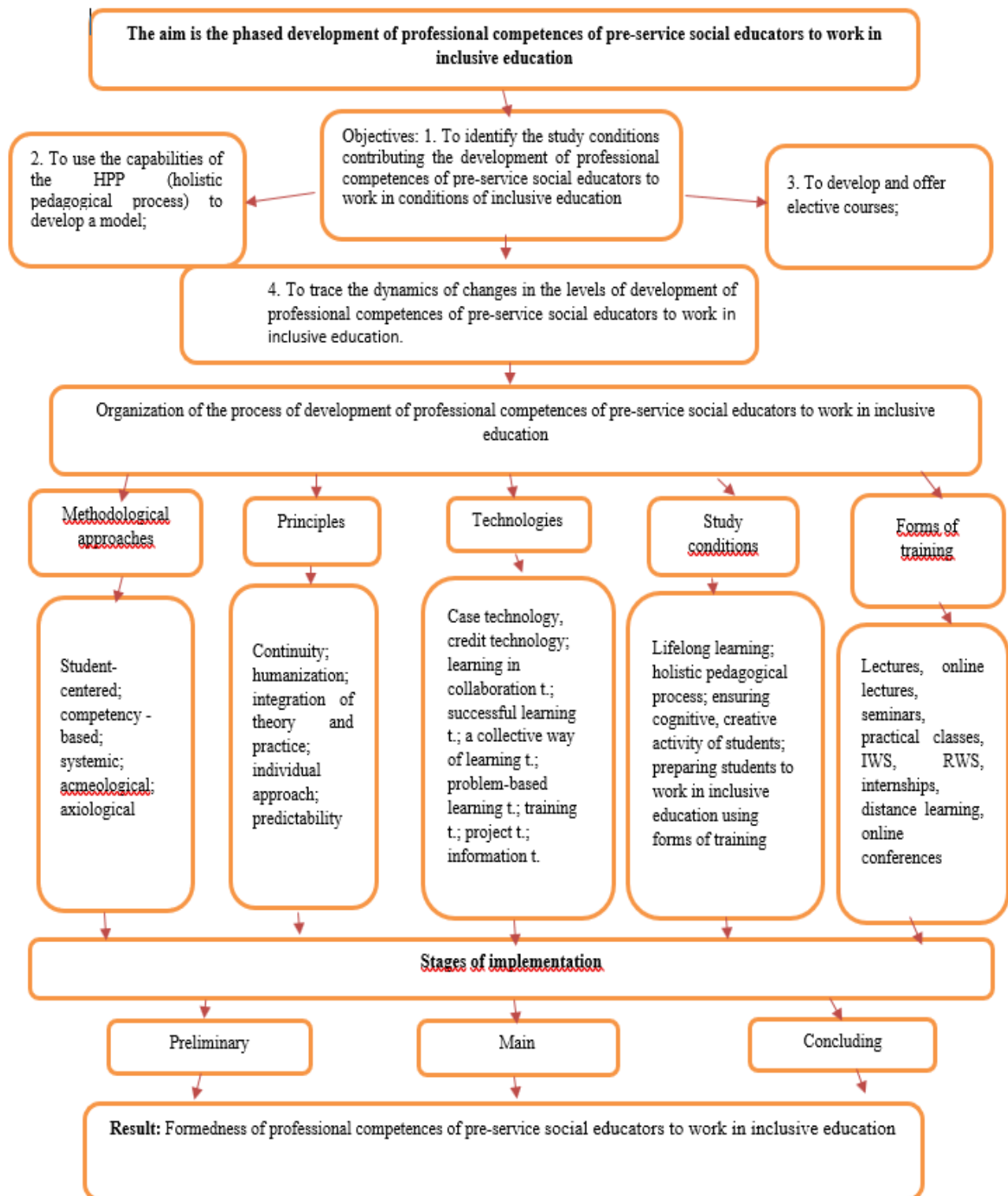


Figure 1. The Model for Developing the Professional Competences of Pre-Service Social Educators in the Context of Inclusive Education

According to this model, the main approaches to the training of pre-service social educators are student-centred, competency-based, systemic, acmeological and axiological. In addition, the following *principles* must be observed to develop pre-service social educators' professional competences: continuity, i.e., lifelong learning (LLL), humanisation, integration of theory and practice, individual approach and predictability. The next component of the model is *educational technologies*. Currently, educational technologies are actively used in the higher education system. Therefore, the following educational technologies were proposed for preparing pre-service social educators to work in inclusive

education: *case technology, credit learning technology, cooperative learning, successful learning technology, collective learning method, problem-based learning technology, training technologies, project technology and information technology.*

Al-Farabi Kazakh National University was the first university in Kazakhstan to sign the Bologna Declaration (Italy) on 16 September 2003 and currently holds a leading position in international rankings. The planning of educational content and the way the educational process is organised and carried out is based on credit technology within the framework of the mandatory state standards for higher and postgraduate education (Al-Farabi Kazakh National University, n.d.).

The effectiveness of the development of professional competences of pre-service social educators for work in inclusive education occurs when the following *study conditions* are present:

1. LLL (continuing education) of a social educator for work in inclusive education (preparation of pre-service social educator at a university for work in inclusive education, retraining and advanced training).
2. Interaction of subjects in the HPP (the ability to solve tasks in cooperation).
3. Ensuring students' cognitive and creative activity.
4. Preparing students for work in inclusive education through various forms of training.

The following modes of training are used for pre-service social educators: in-person and online lectures, seminars, practical classes, students' independent work, student research work (SRW), internships (pedagogical, industrial and pre-graduate), distance learning and online conferences (via various internet platforms such as Teams or Zoom).

The educational and methodological complex for the student's academic discipline includes a syllabus for each field, a plan for practical (seminar) classes and tasks for the student's independent work. Furthermore, in accordance with the international standards for evaluating academic performance, a letter grading system is used at the universities of the Republic of Kazakhstan. Students' knowledge of academic disciplines is also controlled by an examination at the end of their studies (Mynbayeva, 2008).

Model Function

The main structural elements of the model for developing the professional competences of pre-service social educators for work in inclusive education, whose interaction ensures the functioning and integrity of the model, are the preliminary stage, the main stage and the final stage. Stage I (preliminary) aimed at developing a system of motivational and value relations of students to people with SEN and was also focused on establishing the foundations of the necessary conceptual psychological and pedagogical knowledge about inclusive education (1st–2nd year of study, 1–3 semesters).

In the first stage, the objective was to develop the professional orientation of pre-service social educators for work in inclusive education. The following tasks had to be completed to achieve this goal:

1. Students should understand the philosophy of inclusive education in the work of a social educator.
2. Understanding of the role of a social educator in an inclusive environment.
3. Awareness of the social significance of the social educator profession in modern society.

At this stage, the pre-service social educators were taught subjects such as Pedagogy, Inclusive Education, Social Pedagogy, Socio-Pedagogical Diagnostics, Psychology of Education, Developmental Physiology and School Hygiene. In addition, students completed pedagogical (passive) introductory internships at high schools. These internships included sightseeing excursions; meetings with institutional management, social educators and psychologists; observation and analysis of the activities of social educators and socio-pedagogical activities in the institution; analysis of normative documentation regulating the activities of a social educator, an institution and an organisation; and, if possible, implementation of educational activities.

Stage II (main) comprises 2–3 courses (4–5 semesters) of study at the university. It is based on the student's desire to participate actively in the university's educational process.

The second stage aimed to provide pre-service social educators with the basics of the theory and practice of professional activity in inclusive education, and its objectives were as follows:

1. Development of a stable value attitude towards socio-pedagogical activity in inclusive education.
2. Development of a system of knowledge about the nature of inclusive education.
3. Development of students' professional competences to implement different forms of pedagogical interaction between all subjects in an inclusive educational environment (individual and group interaction with students with SEN, with their parents, educators and authorities) and knowledge about the specifics of organising social partnerships in inclusive education.

In this period, there are tendencies towards a stable value attitude to socio-pedagogical activity. There is also a greater appreciation of the role of knowledge (the content component) and a tendency to establish subject-subject relationships between participants in the university's educational process. At this stage, students of Al-Farabi Kazakh National University in the Social Pedagogy and Self-Cognition educational programme were trained in subjects such as Special Pedagogy (4th semester), Social Psychology (4th semester), Education and Problems of Socialisation of Youth (5th semester) and Family Counselling (5th semester). In addition, students in the integration stage studied the Inclusion in the Educational Environment module, which consists of the following electives: Tutor in Inclusive Education (3 credits [150 hr], 3rd year of study, 5th semester) and Innovative Technologies in the Tutor's Activities to Accompany Students with SEN in Inclusive Education Minor (3 credits [150 hr], 3rd year, 5th semester).

The subjects developed were based on the ideas of inclusion, which correspond to the goals of the Republic of Kazakhstan's state educational policy. These goals aim to ensure access to education for all children in the general education process and their social adaptation, regardless of age, gender, ethnicity, religious affiliation, developmental delay or economic status, through the active participation of the family, corrective educational and social targeted support of the child's personal needs and adaptation of the environment to the individual educational needs of children, i.e., by creating appropriate educational conditions.

The tasks for pedagogical internships are becoming increasingly complex. The pedagogical (social) training programme for the Social Pedagogy and Self-Cognition educational programme (for 2nd-year students) was prepared following the basic curriculum and the standard academic programme. The students completed a continuous pedagogical internship at the Almaty Ballet School (named after A.S. Seleznev) and the Republican Kazakh Specialized Boarding Musical School for Gifted Children (named after A.K. Zhubanov). At this stage, the pre-service social educators performed project tasks. After the pedagogical internship, students should prepare a portfolio with the following completed tasks:

1. Analyse the personal characteristics of the child's development.
2. Study and draw up a developmental map.
3. Study behavioural aspects and the development of activities in a social educator's work with a child.
4. Design, model and organise the activities of a social educator's work with a child, considering the child's individual and personal behavioural characteristics.
5. Develop and implement activities in the educational process that contribute to the successful socialisation of the individual in society.

The professional competences of pre-service social educators are developed throughout the entire learning process. At this stage, students begin to build social, communicative, organisational and system competences as well as competences in assessment and the field of development and learning.

The pre-service social educators gave presentations at student conferences, and some of the best students participated in national Olympiads on Social Pedagogy and Self-Cognition. In addition, the students were actively involved in various student youth organisations and associations that contributed to developing their creative abilities and social and pedagogical activities.

Stage III (final) covers the students' last 3–4 years of study (6–8 semesters) at the university. The aim is to develop the systemic knowledge and professional competencies of pre-service social educators for work in inclusive education.

This stage was designed to achieve the following objectives:

1. Educate students to have a valuable, creative and active attitude towards the upcoming professional activity in inclusive education.
2. Create conditions for deepening and improving the professional competences of pre-service social educators for work in inclusive education.
3. Actively involve students in research, social and creative activities.

This period is characterised by purposefulness and awareness of how to improve pedagogical activity. It also consolidates the socio-pedagogical process acquired in the learning process in an inclusive environment and the readiness to creatively apply knowledge to implement socio-pedagogical activities in an inclusive space. At this stage, it is necessary to strengthen the practice-oriented forms of students' academic introduction to innovative teaching and educational technologies. Therefore, the students continued to actively complete pedagogical internships in inclusive centres in Almaty, such as the House of Mercy, the Foundation for Children with Autism and Other Developmental Disabilities, Ray of Light, the Day Centre for Disabled Children with Psycho-Neurological Pathologies, in the libraries, the Montessori Centre and Almaty Kazakh State Humanitarian and Pedagogical College (N-1). In addition, they conducted training sessions and used art therapy techniques. In the course of the pedagogical internship, the pre-service social educators developed professional competences for working in inclusive education, recognised the need for a competency-based approach to organising an accessible environment with people with SEN, the importance of the humanistic value of a

social educator's professional activity, their inclusive culture and the readiness to accept a child with SEN. They have also conducted career counselling services at schools and colleges.

Through practice, pre-service social educators gain experience communicating with children with SEN and learn empathy, tolerance and perseverance. The pre-service social educators also gain experience communicating with the children's parents and become familiar with their problems (Magauova & Makhambetova, 2020a). During the pedagogical internship, Bachelor's students acquire and develop specific professional competences for working in inclusive education. This stage of studies at the university ends with the pre-service social educators writing and defending their final thesis on topics related to the study of socio-pedagogical activities in inclusive education. By implementing the described model, educational conditions are created to implement the process of developing professional competences of pre-service social educators for work in inclusive education.

Table 1. Stages of Model Implementation

Stages of model implementation		
Stage I (1st–2nd year of study, 1–3 semesters)	Stage II (2–3 years of study, 4–5 semesters)	Stage III (3–4 years of study, 6–8 semesters)
Aims		
Develop professional orientation of pre-service social educators to work in inclusive education.	Provide pre-service social educators with the basics of the theory and practice of professional activity in inclusive education.	Develop systemic knowledge and professional competences of pre-service social educators to work in inclusive education.
Objectives		
<ol style="list-style-type: none"> 1. Students should understand the philosophy of inclusive education in the activities of a social educator. 2. Understanding a social educator's role in an inclusive environment. 3. Awareness of the social significance of the social educator profession in modern society. 	<ol style="list-style-type: none"> 1. Development of a stable value attitude towards socio-pedagogical activity in the context of inclusive education. 2. Development of a knowledge system about the nature of inclusive education. 3. Development of students' professional competences to implement different forms of pedagogical interaction between all subjects in an inclusive educational environment (individual and group interaction with students with SEN, with their parents, teachers and authorities) and knowledge about the specifics of organising social partnerships in inclusive education. 	<ol style="list-style-type: none"> 1. Educate students to have a valuable, creative and active attitude towards the upcoming professional activity in the conditions of inclusive education. 2. Create conditions for deepening and improving the professional competences of pre-service social educators for work in inclusive education. 3. Actively involve students in research and social and creative activities.
Taught subjects		
Pedagogy, Inclusive Education, Social Pedagogy, Socio-Pedagogical Diagnostics, Psychology of Education, Developmental Physiology and School Hygiene, etc.	Special Pedagogy, Social Psychology Education and Problems of Socialization of Youth, Family Counselling, Mediation Technologies in the Work of a Social Educator, Penitentiary Pedagogics and Scientific Writing, etc. The modules developed by the authors, Inclusion in the Educational Environment, consist of electives: Tutor in Inclusive Education and Innovative Technologies in the Tutor's Activities to Accompany Students with SEN in Inclusive Education Minor.	The Spiritual and Moral Education of Schoolchildren, Methodology of Scientific and Pedagogical Research, The Management of Quality Education in School, Social-Pedagogical Correction, Protection for Children and Families and Deviantology, etc.
Student research work (SRW)		
Participation in republican Olympiads in pedagogy, speeches at scientific and practical student conferences, participation in round tables, seminars, student debates, career guidance services and defence of theses.		
Educational internships		
Introductory (passive)	Pedagogical (industrial)	Pedagogical/pre-diploma

Discussion

This research aimed to create and present a model for developing the professional competences of pre-service social educators in the context of inclusive education. The analysis confirms that implementing inclusive education is now a priority worldwide. The high-quality training of educators, especially social educators, is essential for working with people with SEN. Therefore, it is necessary to gradually develop social educators' professional competences to achieve high-quality training for work in inclusive education.

In Kenworthy's (2010) model, "Individual Variables of Competency, Competence and Performance and Organisation Core Competence", the author described *competency* as personal characteristics and behaviours and *competence* as the functions and tasks of work (Figure 3). *Professional competence* applies to working life, especially in very complex and demanding professions, where the effective management of situations depends on the interaction of knowledge, skills, attitudes and motivation (Epstein & Hundert, 2002). Developing professional competences in pre-service social educators is crucial because working in inclusive educational settings today is demanding and extremely important.

The professional competences of pre-service social educators are developed in each subject during a pedagogical internship and student research work. As a result of learning each topic in the Social Pedagogy and Self-Cognition educational programme, the student develops competences, which are described as abilities. The following professional competences are also developed by International Association of Social Educators (2008): social and communicative competences, organisational competences, system competences, intervention competences, evaluation and development competences and learning competences.

In the main stage, the pre-service social educators were offered an Inclusive Education module comprising two subjects: Tutor in Inclusive Education Minor and Innovative Technologies in the Tutor's Activities to Accompany Students with SEN in Inclusive Education Minor. The interaction of pre-service social educators with people with SEN takes place in a pedagogical internship.

Mintassova et al. (2020) and Shektibayev et al. (2017) designed models to develop professional competencies. Aubakirova's (2017) model of deontological readiness of pre-service educators for work in inclusive education considers competency-based, personal-activity and axiological approaches. This model also includes value-semantic, information-cognitive, social-communicative, organisational-managerial and personal improvement competences.

Nurgaliyeva et al.'s (2020) conclusions correspond to those of the authors of this study, as the Model for Developing the Professional Competences of Pre-Service Social Educators in the Context of Inclusive Education establishes a relationship between students' academic and extracurricular activities. Developing professional competences of pre-service social pedagogues in the field of drug addiction prevention was considered key, basic and specialised (Nurgaliyeva et al., 2020). The authors of this study take into account the basic and key competences (International Association of Social Educators, 2008), including those indicated in the educational programme for Social Pedagogy and Self-Cognition.

The distinctive feature of the model presented is the possible application of academic courses, modules developed by the authors, pedagogical internships and SRW. The model is also based on a student-centred approach and the principle of continuity of learning, i.e., LLL.

Conclusion

The model enabled a holistic view of the development of professional competences of pre-service social educators for work in inclusive education. Therefore, it is essential to involve pre-service educators in various research and project activities during the internship to create an HPP.

A necessary prerequisite is the study of general professional elective courses. The model for developing the professional competences of pre-service social educators in the context of inclusive education can provide a systematic, competency-based approach to the professional training of specialists for work in inclusive education. The implementation of the presented model enables the gradual development of professional competences of pre-service social educators on the studied aspect of professional activity based on the educational process. In the future, the model can monitor the dynamics of quantitative and qualitative indicators of the level of development of professional competences of pre-service social educators for work in inclusive education.

Recommendations

The development of educational programmes in pedagogical subject areas based on the proven model is recommended. Therefore, it is necessary to introduce the Model for Developing the Professional Competences of Pre-Service Social Educators in the Context of Inclusive Education into the national system of professional training specialists for work in the conditions of inclusive education.

Limitations

The study has some limitations. First, the study was limited because it was conducted remotely under the conditions of the Covid-19 pandemic. However, the assessment of previous studies makes it clear that it is crucial to strengthen educational programmes for teacher training with the components of inclusive education and to incorporate inclusive

subjects in general professional subjects (Hryvko & Zhuk, 2022). In addition, it is essential to review the content of training programmes for university lecturers. Graduates with a high level of development of new professional skills appropriate to the modern educational space are needed (Shkutina et al., 2017), as well as comprehensive training of educators for work in the context of inclusive education (Movkebayeva et al., 2013).

Conflicts of Interest

The authors have no conflicts of interest to declare in this research, and it received no external funding.

Authorship Contribution Statement

Makhambetova: design, data collection, literature review, analysis, writing original draft. Magauova: review and editing, supervision, final approval.

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