



DIFFERENTIATED INCLUSIVE EDUCATION BASED ON MULTI-VECTOR RELATIONS: APPLICATION IN KARAKALPAK SCHOOLS

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ABSTRACT

The article emphasizes the role of differentiation principles in an inclusive education system in terms of a multi-vector model. The article also examines mechanisms for an individual approach in general education schools in Karakalpakstan, as well as in educational conditions that meet students' needs. The practical importance of equality, individualisation, and pedagogical adaptation in an educational system is substantiated.

Keywords: inclusive education, differentiated approach, multi-vector model, individual needs, Karakalpak schools, adaptive education.

INTRODUCTION

One of the main tasks of the modern educational process is to create fair and equal opportunities for every student to fully realize their individual potential. For this purpose, the inclusive education approach has become one of the important directions of contemporary educational policy. The concept of inclusive education serves to ensure the successful integration of children with disabilities or special educational needs into society by including them in the general education system. This process is based on the recognition of every person's right to education. The acceleration of globalization processes and the widespread development of information and communication technologies are stimulating the renewal of educational approaches. Therefore, studying advanced practices and modern trends of inclusive education and effectively implementing them in national conditions has become highly significant. [1; 813, 828].

In the inclusive education system, the concept of quality education primarily means meeting the learning needs of students with disabilities not in a segregated environment but within conditions of social integration. This implies creating an educational environment based on equality and cooperation.

Such a concept should be implemented not only in schools but also in preschool education, vocational education, and higher education systems. The main goal is to create a supportive, motivating, and accessible learning environment for learners of all ages without any barriers.

Considering the specific linguistic, cultural, and social environment of the Republic of Karakalpakstan, the implementation of inclusive education in this region requires particular approaches. Due to multilingualism and intercultural diversity in the area, it is necessary to develop new pedagogical solutions that ensure equal opportunities for every student in the educational process. From this perspective, a multi-vector differentiated approach is considered an important method for increasing the effectiveness of inclusive education in the conditions of Karakalpakstan.

LITERATURE REVIEW AND RESEARCH METHODOLOGY

In recent years, approaches that take into account the individual characteristics and needs of each student have become increasingly important in the field of education. Therefore, the concept of inclusive education has been widely implemented in modern pedagogical practice. The main goal of this approach is to create equal opportunities for all children in accessing education, regardless of their abilities and needs. In particular, the significance of multi-vector and differentiated methods has been steadily increasing today.



Scientific sources provide an in-depth analysis of the theoretical foundations and practical aspects of these methods. For instance, the concept of inclusive pedagogy proposed by Florian and Black-Hawkins emphasizes the creation of an open and adaptable learning environment for all students. According to their view, it is important not simply to modify the educational process to suit individual learners, but to create equal learning conditions for everyone within the educational environment. In this regard, the teacher's ability to make reflective and thoughtful decisions plays a crucial role. [4; 15, 19].

National pedagogical literature. Also widely addresses this approach. In particular, in the studies of Tilavova, the individual approach is considered the foundation of an effective lesson. According to her, a teacher should select appropriate methodological strategies by taking into account students' levels of knowledge, psychological characteristics, and learning pace. This, in turn, increases students' participation in lessons and improves the effectiveness of knowledge acquisition.

The studies of Ashurova and Rahmatova analyse the challenges faced in implementing the inclusive education system in Uzbekistan, such as insufficient infrastructure, a lack of qualified specialists, and limited didactic resources. These findings highlight the necessity of adapting educational approaches to regional conditions.

The above-mentioned scientific approaches indicate that the development of inclusive education requires not one-sided but rather multi-layered and adaptable strategies. From this perspective, the significance of a multi-vector differentiated approach is increasing.

In this research, the main focus is on testing a multi-vector approach based on differentiated education in practice and determining its actual effectiveness using the example of general secondary schools in the Republic of Karakalpakstan. For this purpose, the study was conducted on a solid methodological basis.

During the research process, qualitative and quantitative analysis methods were combined. Such a comprehensive approach made it possible to analyse not only statistical results but also the individual development characteristics of students in depth. In particular, methods such as observation, surveys, interviews, and analysis of learning outcomes were applied together.

The selected methodological approach became an important tool for analysing the needs of each student, creating effective educational conditions, and identifying the practical advantages of the multi-vector differentiated model in regions like Karakalpakstan, which are characterized by multilingualism and cultural diversity. [2; 23, 27].

RESULTS

The conducted research shows that the inclusive education model based on a multi-vector differentiated approach implemented in general education institutions of the Republic of Karakalpakstan has had a significantly positive impact on the quality of education and the level of students' knowledge. The main principle of this model is to deeply analyse the individual needs of each student and develop adapted learning strategies based on this analysis.

The analysis revealed the following key aspects:

1. Practical impact of the multi-vector approach. The practical effect of the multi-vector approach lies in the fact that lessons were organized taking into account the intellectual, emotional, social, and physical developmental characteristics of students. As a result, students' interest in the educational process and their active participation increased. In particular, children with special educational needs demonstrated stronger abilities in independent thinking, communication, and expressing their opinions freely.

2. Capacity of pedagogical staff and methodological innovations. At the initial stages, teachers did not have sufficient experience and skills in effectively applying differentiated approaches.



However, through professional development courses, practical seminars, and training sessions, they acquired the necessary knowledge and learned to apply new methods in practice. For example, individual assignments, adapted assessment methods, and multimodal teaching strategies were introduced into the learning process.

3. Effectiveness of the adapted learning process. In classes where an individual approach was applied, a noticeable improvement in assessment results was recorded, especially among students with average academic performance. The use of methods adapted to the specific needs of each student contributed to improving their level of knowledge. This confirms the important role of the differentiated approach in ensuring equal opportunities in education. [2; 23, 27].

4. Characteristics of local schools. In some schools, the material and technical resources do not fully meet the requirements of inclusive education. However, effective use of available resources has made it possible to achieve positive results. For example, the use of audio and visual tools, as well as adapting learning materials to local language and cultural contexts, increased the effectiveness of lessons.

5. Positive changes in the socio-emotional environment. Through group work, role-playing activities, and project-based tasks, relationships within the classroom improved. As a result, social values such as respect, solidarity, cooperation, and mutual understanding developed among students. This situation demonstrates that the educational process is closely connected not only with teaching but also with students' social and psychological development.

DISCUSSION

Based on the above observations, it can be emphasized that the differentiated inclusive education model developed on the basis of a multi-vector approach created significant opportunities for identifying and supporting the individual developmental pathways of each student. This approach provided a foundation for implementing the principles of inclusiveness not only at the theoretical level but also in practical application. The research results indicate that this model has become an important factor in the development of students' cognitive abilities, emotional well-being, and social adaptation.

At the same time, the successful implementation of innovative approaches is directly connected with continuous methodological and technical support. In order to introduce inclusive education comprehensively, it is first necessary to retrain pedagogical staff and regularly improve their professional qualifications.

In addition, it is important to ensure the active participation of parents and representatives of the local community in the educational process. By informing them about the content and social significance of inclusive education, it is possible to establish a broad system of social support. This, in turn, will ensure the consistent and sustainable development of the inclusive education model based on a differentiated approach [3; 1, 8].

CONCLUSION

In the Republic of Karakalpakstan, certain positive experiences have already been formed in this area. In particular, special curricula have been developed taking into account the individual characteristics of students, visual learning materials adapted to the Karakalpak language have been created, and digital technologies—especially distance learning platforms—are being used effectively. Nevertheless, some systemic challenges still remain. In particular, the shortage of qualified defectologists and speech therapists, limited technical resources of educational institutions, as well as insufficient cooperation with parents create difficulties in the large-scale implementation of inclusive education [4; 15, 19].



In conclusion, it should be emphasized that the differentiated inclusive education model developed on the basis of a multi-vector approach serves as a strategically important mechanism for creating an open, stable, and equal educational environment for all students in general education institutions of the Karakalpakstan region.

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