Structural and Functional Model of Formation of an Inclusive Education Management System: World Experience

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The need to improve the management of the modern education system, in accordance with the principles of humanisation and individualisation, implies the development of theoretical models that fully reflect the content and nature of assistance to students with special needs in a specific educational complex. The importance of this task is currently explained by the trend towards an increasing number of students. For the purpose of objectivity of the study, the countries that use different systems and models of inclusive education management were selected as follows. On the basis of geographical location due to socio-cultural, economic and political peculiarities, they were divided into the countries of the "north" (USA, Canada, European countries and Organization for Economic Cooperation and Development) and the "south" (Sub-Saharan Africa, Latin America, East Asia/Pacific, South Asia). On the basis of generalisation of the advantages and disadvantages of existing world models of inclusive education management. Taking into account the experience of the countries considered, it is advisable to develop a structural and functional model of formation of an inclusive education management system. It should be substantiated by the new conditions for organising education, and the requirements of society that are necessary for developing strategies of experimental studies organisation, aimed at further deepening the concept of inclusive education as considered in the field of general and vocational education.
The components of the structural and functional model of formation of an inclusive education management system are characterised, and the results of realisation of this model are determined, among them as

follows: improving the quality of activity of all inclusive educational institutions; a qualitative change in the personality of students with special needs, the teaching staff, administration, society; timely identification of problems in the system of providing a new quality of education and inclusive education in particular; formation of "quality culture" in education institutions; and development and provision of new types of good educational services.

Keywords: *Inclusive education options, students with special needs, inclusive culture of population, inclusive education management, inclusion, teaching staff, educational space, program of inclusive development, structural and functional model of inclusive education management.*

Introduction

Socio-cultural evolution, and scientific and technological progress in the twenty-first century has led to a change in the demographic composition of the population. One of the consequences was an increasing number of disabled children worldwide. According to the World Health Organization, people with disabilities amount to 10 per cent of the world's population. Among them, 120 million are children and adolescents, and a trend to an increasing number of children with disabilities is observed worldwide (Inclusive education for learners with disabilities petitions, 2018; World health organization, 2019). In the countries of Central and Eastern Europe, the share of children with disabilities is 2.5 per cent, and among them, 1 per cent are children with severe disabilities. The percentage of children with disabilities in the total number of children in different countries is 2–3 per cent to 4 per cent (USA, 4 per cent; Great Britain, 2.5 per cent; China, 4.9 per cent; Ukraine, 2–3 per cent). About 10–20 per cent of children and adolescents have limited health capacities and need ongoing medical and pedagogical support (Key health indicators in the WHO European Region 2017, 2018; European database Health for All, 2019).

According to the European Agency for Special Needs and Inclusive Education, as of 2018, in thirty countries, from 1.11–17.47 per cent of children with limited health capacities and special needs were registered. Thus, in the Baltic countries were more than 4 per cent, 3 per cent in Poland, 5 per cent in Germany and Denmark, 6 per cent in Latvia, 8 per cent in Estonia and Norway, and at the same time, about 12 per cent in Lithuania. The average for European countries is 4.53 per cent. The Ukraine is no exception; today, more than 2.5 per cent of children have the status of a child with limited health capacities, including with disabilities (European Agency for Special Needs and Inclusive Education, 2019).

At the same time, almost two hundred years ago, the lives and destinies of these people ceased to be exclusive precedents and put states and society at the forefront of the need to solve the problems of socialisation, adaptation to society, and the economic conditions of the

lives of children and adolescents with limited health capacities and special needs (Markina & Al Shirafi, 2016).

An improvement of the modern system of education management, in accordance with the principles of humanisation and individualisation, involves the development of theoretical models that fully reflect the content and nature of assistance to students with special needs in a specific educational complex. The importance of this task is currently explained by the trend towards an increasing number of students with various physical and neuro-mental health disorders (Medova, 2012; Markina et al., 2019).

In a UNICEF report, Bengt Lindqvist, a UN Special Rapporteur on Human Rights and Disability, noted that a dominant problem in disability was the lack of access to education for children and adults with disabilities. As education is a fundamental right for all, enshrined in the Universal Declaration of Human Rights and protected by various international conventions, this is a very serious problem. In most countries, there is quite a difference in the educational opportunities offered to students with disabilities and the educational opportunities for students without special needs (Lindqvist, 1999).

Addressing this widespread need, the Dakar Framework for Action in 2000 adopted the World Declaration on Education for All (EFA), which approved the notion of education as a fundamental right and set a goal for the new millennium — to provide every child with an opportunity to get primary, secondary and higher education by 2015. The basic principle of inclusive education is that all students should have an opportunity to study together (UNESCO, 2003).

The Purpose of the Article

The demographic, socio-cultural, economic, political, environmental and other factors of each country have led to the emergence of various models, forms and options for managing inclusion in the field of education and the initial process of students with special needs.

The purpose of this article is to analyse the peculiarities of world models of inclusive education management based on identifying their strengths and weaknesses. The results of this analysis will lead to the formation of a unified structural and functional model of inclusive education management, which can be used to form a system of inclusion of students with different special needs in the educational space.

Materials and Methods

In order to determine the relevance and necessity of the formation and implementation of an effective system of inclusive education management, we used data from the World Health Organization for 2010–2018 (World Health Organization, 2019) and statistics from the European Agency for Special Needs and Inclusive Education for 2018 (European Agency for Special Needs and Inclusive Education, 2019).

The following methods were used in the research: 1) general scientific methods of analysis and synthesis for expert characteristics of materials on the problem of the formation of systems of inclusive education by international organisations and different countries of the world; 2) specific scientific methods, such as a retrospective method of the peculiarities of the implementation of inclusive education models, which made it possible to determine the advantages and disadvantages of the models studied depending on the economic, demographic, environmental and socio-cultural factors of the country's environment; and 3) a systematic and structural method to summarise the advantages and disadvantages of existing world models of inclusive education, to take into account the experience of the countries concerned, and to build a structural and functional model of formation of an inclusive education system that will meet the new conditions of educational organisations and the requirements of society, which are necessary for the development of experimental research strategies aimed at further deepening the concept of inclusive education that is considered in the field of general and vocational education. Other methods of the research include monographic, abstract-logical, and grouping methods.

The countries that use different systems and models of inclusive education management were selected on the basis of their geographical location due to socio-cultural, economic and political characteristics. Thus, the research deals with the countries of the "north" (USA, Canada, European countries and countries of the Organization for Economic Cooperation and Development) and the countries of the "south" (Sub-Saharan Africa, Latin America, East Asia/Pacific, South Asia).

Results and Discussion

In order to understand the key points in the development of inclusive education systems in different countries, it is advisable to study and analyse the existing experience.

The division of inclusive education systems into "northern" and "southern" is quite interesting (Peters, 2003). Large-scale international studies in the countries of the "north" (USA, Canada, Europe and the Organization for Economic Cooperation and Development) provide information on the best practices of inclusive education. The training of teachers,

lecturers, and coaches has a high priority in this system, and the cost of human resources accounts for approximately 80 per cent of the total cost of education.

Features of the northern inclusive education system are:

- Focussing teachers or lecturers on improving their qualifications in the field of pedagogy, curriculum development and the adaptation of students;
- Learning is conscious and occurs due to classroom activities;
- Training is intensive and ongoing to promote sustainable effective practice;
- Leadership of the school or institution of higher education, coordination services, as well as parents of students with special needs participate in the educational process.

The practice of inclusive education in the "south" (Sub-Saharan Africa, Latin America, East Asia/Pacific, South Asia) is characterised by a combination of four areas: input resources, processes, results, and contextual factors of the inclusive education system. This system takes into account not only the external factors affecting inclusive education (politics, legislation, cultural and socio-economic conditions), but considers these factors as integral components of the development of inclusive education as a whole. This "openness" of the system is the feature and advantage of inclusive education in the countries of the "south".

The most complex and important aspects of the development of inclusive education in terms of "input resources" include:

- Student access level, supporting and graduation of students;
- Encouraging children to go to school, and students to get an education;
- Poverty and related characteristics that interfere with education;
- Attitude to special educational needs and disabled students;
- A flexible, adaptive and functional program for obtaining life skills (Cameron & Valentine, 2001).

From the point of view of the processes of the southern system under study, the main ones are: the formation of an educational climate, cooperation, support and integrated services.

The results of inclusive education are often illusory and difficult to measure. The advantages of this system are a combination of the four main components: human rights, decentralisation, partnership for change and integrated lecturer or teacher training.

However, despite the global division into "northern" and "southern" inclusive education systems, their classification systems are highly dependent on the country, and even within countries.

In Canada, more than two decades of inclusive education practice has a significant impact on the development of these systems in the "northern" countries. Developed educational programs have become a powerful tool for establishing links between educational institutions, parents and communities, as well as for solving complex individual, family and systemic issues, and have become an obstacle to inclusive education (Lewis, 2002).

In the United States, inclusive education programs grew exponentially from 1994–1995. Inclusive schools, convened by US national organisations at the national level, have identified the following practice characteristics for inclusive education:

- Community feeling: philosophy and vision according to which all children can learn;
- Leadership: school administrators play a crucial role in introducing inclusion;
- High standards: high expectations for children that meet their needs;
- Cooperation and collaboration: support and joint training of all students;
- Changing roles and responsibilities of all staff;
- An additional set of services: for example, healthcare, mental health and social services;
- Partnership with parents: equal partners in raising children;
- Flexible learning conditions: pace, time and place;
- Research-based programs: teaching and learning the best practice programs;
- Access: physical environment and technology;
- Lifelong professional development: constant (Lipsky & Gardner, 1997).

In Finland, inclusive education is enshrined in law. The law reflects the accessibility of education for people with special needs, which provides for the creation of a differentiated learning environment depending on the nature of violation. Special changes have been made to the national curriculum that provide integrated training for students with special needs. In addition, there is a system of state educational and consulting centres that organise the accompaniment and support of such students, their parents and teachers. Fundamental principles for teacher training include interpretations, inclusive learning, and research focus (Haeberlin, 2017; Begichev et al., 2019; Shestak & Volevodz, 2019).

French teachers believe that the form of inclusion is very effective for students with visual impairment and musculoskeletal problems. However, for deaf and mentally disabled people, it is not entirely acceptable. For these categories of students, they began to create classes of pedagogical integration, which are an open system that unites from time to time and, if necessary, secondary and higher school students for required support and control, which require a lot of time. The main problems in implementing inclusive education in France are the development of methodological support for inclusive practices and insufficient staffing (Blundell & Vickerman, 2010).

In addition, there are government resource centres to accompany special needs students who attend general education schools (Heaton et al., 2010).

In Denmark, inclusive education is not only enshrined in law, but also a national strategy for the implementation of inclusive education exists; that is, the national resource centre leads the process of introducing inclusive education. There is a taskforce from representatives of various universities of the country that conduct research in the field of inclusive education, and monitor the work of municipalities in the field of introducing inclusive education (Brandt, 2011; Shestak et al., 2019).

Peculiarities of inclusive education in Europe (more than 30 countries took part in the study) were focussed on five areas of inclusive education: inclusive education policy and practice, financing special needs education, teacher or lecturer training, information and communication technologies in education with special needs, and early intervention. The features of this system for inclusive education are:

- The transformation of special educational institutions into resource centres continues to be a general trend;
- The formation of individualised study plans play a major role in determining the degree of inclusion, such as adapting the student to the educational process and assessing his or her success (Priestley et al., 2007; Khadar, 2017; Markina et al., 2018).

In Africa, students with physical disabilities are a promising area for further study. Zambia, Zimbabwe and South Africa are organising the active protection of disabled people. Most higher education institutions in the region are actively engaged in educational activities. The Southern Africa Federation of the Disabled (SAFOD) has set a number of goals, including poverty alleviation and economic support and education; and advocating and lobbying for the protection policy of students with disabilities (Peters, 2003).

In Latin America, the transition of most countries to the democratic foundations of ideology has influenced the management of inclusive education. Colombia, Honduras and Guatemala have Esquela Nueva pilot schools that work with a clear philosophy and vision for inclusion. Honduras is one of the few countries that reports on experiences and successes in inclusive education. Efforts in educational institutions in Honduras also include the integration of multiclass teaching, intercultural and bilingual education. The program combines the parent and educational components (Hyder & Tissot, 2013).

Considering the context East Asia and the Pacific, nearly two-thirds of people with disabilities in the world live in South and Southeast Asia. The World Bank has now provided

investment funds for three active projects in Vietnam, where there are a million children with disabilities related to inclusive education; a higher education project, a project to protect public and family health, and a project for developing primary teachers. The experience and expertise of the CST or CBR partnership program to link the health and education sectors to improve the lives of children with disabilities and their families can be used to strengthen these projects (Hurst & Tunan, 2007).

South Asia has an integrated teacher and lecturer training system. A report by the Asian Development Bank highlighted teacher and lecturer education and training as a central policy throughout the Asia-Pacific region. This policy provides for two implementation strategies: restructuring teacher training, and continuous staff development. As a priority, these policies and strategies need to be integrated into existing curriculum policies and strategies for improving inclusive education (Peters, 2003).

In addition to the considered models of inclusive education, it is also advisable to distinguish the classification of models according to the general level of readiness of the higher education applicant, with cautious opportunities for educational integration. The following inclusion options are defined: permanent, permanent incomplete, partial, episodic or distance learning. Selecting the option of inclusion in the educational process depends on the level of opportunities and needs for education (Table 1).

Table 1: Inclusive Education Options (created by the authors on Medova basis, 2012)

| Inclusive education options	Description	Arrangement rules	Dosing of time inclusion
Permanent, full integration	Effective for students whose level of psychological, physical and linguistic development meets or approaches the age standards; they are psychologically ready to share education with healthy peers.	Students with developmental disabilities who are involved in 1–3 people in classes or groups.	Students who have special needs during the day and stay with other participants of the educational process.
Permanent, incomplete integration	Effective for students who have minor psychological, physical and language developmental disabilities, along with their peers to acquire only a fraction of the required skills.	One-third of children with special needs.	Correctional hours, after-class activities.
Temporary, partial integration	Students with special needs are united with other students to hold common events.		At least twice a month.
Episodic integration	This integration implies a purposeful organisation of at least minimal social interaction of students with special needs with peers (holidays, competitions, exhibitions, clubs, electives) within the framework of collaboration between educational and interdepartmental institutions.	If the institution has limited opportunities in purposeful work on overall collaboration with educational participants without disabilities.	By invitation.
Distance learning	The purpose of distance learning is to provide students with the opportunity to get education through an individual program at home. It is inclusive in conjunction with temporary, partial, or episodic inclusion.		According to the established schedule.

Based on the generalisation of the advantages and disadvantages of the existing world models of inclusive education, taking into account the experience of the countries concerned, it is advisable to build a structural and functional model for developing inclusive education; it is substantiated by the new conditions of educational structuring and the requirements of societal needs, which are necessary for the development of the strategy for conducting experimental research aimed at further deepening the inclusive education concept in the field of general and vocational education.

In order to use a structural and functional model of developing an inclusive education system for creating an inclusive educational space, which provides equal opportunities for receiving educational services, it is recommended to identify the main interrelated stages of consistent management activities, including:

- An informational and diagnostic stage, which involves the collection of necessary information and assessment, allowing to study (diagnose) individual adaptive features of all educational participants;
- An orientational-propaedeutic stage, which means determining the perspectives for the creation of an adaptive educational environment in order to build and implement an inclusive education model, developing management decisions and preparation for decision making;
- A basic technologic stage, which provides for the implementation of social management technology, primarily within an inclusive educational space;
- a managerial stage, which is the actualisation of the process of managing the effectiveness of developing the self-governance and co-governance of inclusive education institutions.

The functional support of the elements of the proposed structural and functional model is of great importance. It involves the redistribution of financial resources between all participants in the inclusive education process, as well as the substantial state support.

Figure 1. Structural and functional model of developing an inclusive education management system
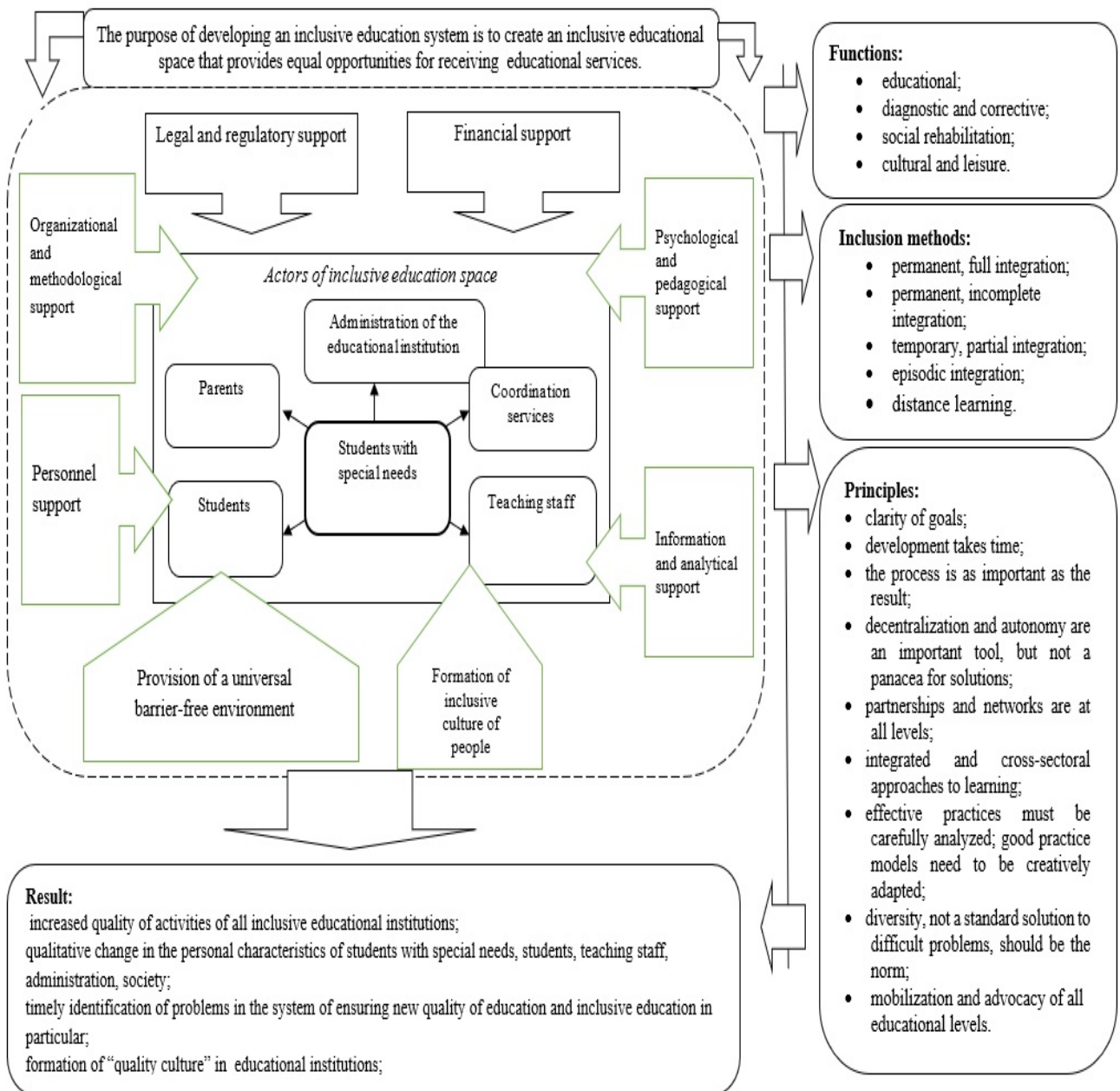
[author's development]

Personnel support of the implementation model is carried out in two directions: by providing highly qualified specialists in teaching, psychology, correctional and developmental, and other areas; and by ensuring an appropriate level of competence and its continuous improvement among teachers and instructors working with students with special needs.

In order to achieve the effective implementation of the model, one of the managerial decisions is teachers' mastering of such didactic approaches and techniques that would ensure

the inclusion of students with special needs in the educational space, without any harm to the quality education of other peers.

The organisational and methodological sector ensures the effectiveness of collaboration of all participants in the educational process. An important component is the planning of the learning part, extracurricular classes and corrective and developmental areas, which take into account students' special needs.

Psychological and pedagogical support includes key activities such as the development and implementation of individual correctional and developmental programs for students with special needs, counselling for parents, teaching staff and working with the team of a class or group.

The barrier-free environment requires, first and foremost, the provision of logistical resources to meet the specific needs of each group of students, especially taking into account medical recommendations. In addition, this type of support may involve different forms of learning or teaching, such as 1) home study; 2) full-time and part-time education, including counselling by support services specialists for parents and teachers who provide full-time education; and 3) a family form of education wherein parents receive advice on its implementation, on the necessary issues and problems during the academic year. The decision on the effectiveness of the program implementation is made on the basis of the annual interim certification conducted by the support services specialists.

Building an inclusive culture for people, in particular the parent's community, involves the development of a tolerant attitude and clarification of the methods of organising the educational process in which the quality of education for students without disabilities does not decrease due to the presence of students with special education needs in the class or group.

Conclusion

In addition to the results specified in the inclusive education model, its following advantages should be highlighted:

- Creating an adaptive educational environment that will meet both the general and special educational needs of students;
- Ensuring an individual pedagogical approach to students with special needs, taking into account the specificity and severity of disorders, social experience, individual and family resources;
- Building an inclusive system of learning in a special way, that is with the outlining

special tasks, sections of the learning content, as well as methods, techniques and tools for achieving those educational tasks that can be achieved in the traditional ways under standard conditions;

- Coordination and interaction of specialists from different areas, involving parents of students with special needs;
- Development of specialised curricular and methodological complexes;
- Providing psychological and pedagogical support for the integration of students with special needs into the educational and social environment;
- Integration of the process of gaining knowledge, educational skills, development of social experience, and life competencies;
- Creating tolerant perceptions and attitudes of the participants of the educational process to students with special needs;
- Increasing the professional competence of teachers in the field of education and development of students with special needs.

The interaction of elements within the proposed structural and functional model of developing the inclusive education system will ensure the openness of educational organisations, promote the professional competence of teaching staff, allow establishing direct contacts between organisations and institutions in different areas, building different directions to achieve a common goal, and using general resources for the needs of a particular participant. The effectiveness of the model is ensured by the system of its interaction with parents (consultation and participation in the development and implementation of individual curricula and support programs).

Understanding inclusion as a long-term process divided by the levels of education (from secondary to higher), and the awareness of the need for coordination of actions of all its participants, suggests that the implementation of the model will contribute not only to theoretical developments, but it will also reflect the experience of an increasing number of participants.

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