

Psychological and Pedagogical Features of the Organization of Collective Forms of Work in Different Age-Related Groups

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Abstract: The article identifies the main problems of the organization, the features of collective educational activities in multi-age classes and ways to overcome them. The relevance of the article is determined by the demographic problem of Ukraine - the threat of closure of small rural schools for economic reasons. The position of the authors in this regard is as follows: if to develop a theoretical basis for the effective association of small classes into large, but mixed-age classes and to stimulate administrative and legal support of such association, it is possible to preserve schools even in the most marginalized areas. The general purpose of the article is to determine the peculiarities of functioning of multi-age classes in today's conditions and to provide recommendations for constructive organization of educational activities of multi-age classes in the realities of modern Ukrainian schools on the basis of the received data. Partial aims of the article - analysis of domestic and foreign literature and consideration of ideas and problems of teachers of Ukrainian small schools to obtain data, analyze them, and formulate recommendations. Criteria for selection and analysis of the literature - thematic, temporal (mainly the latest sources), problematic (coverage of the maximum number of problematic aspects) and practice-oriented (data can be extrapolated, adapted, borrowed). This determined the methods of the article: typological, comparative, pragmatic analysis of the content of educational conditions and principles related to the topic; sociological (elements of questioning teachers unrepresentative sample) for general opinion of teachers, getting suggestions (request) and teachers' attitude to the problem. At the final stage, methods of extrapolation (according to the installation "world tendencies - Ukrainian realities"), generalization and forecasting were used. Prospects for further research lie in the development of integrated teaching methods and forms. The latter should be both maximally differentiated, but expediently integrated, and subjects of different ages should minimally interfere and maximally mutually assist in achieving educational goals.

Keywords: *differentiated education, forms of group interaction, demographic factors, economic feasibility, group microclimate, teacher role, microsocioal model.*

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1. Introduction

Many developing countries are experiencing marked demographically determined qualitative and quantitative changes in education. The peculiarity of Ukraine, as well as of the whole of Europe, is a decrease in population. Actually, the Ukrainian specificity is a decrease of the population on the basis of rapid urbanization, the demographic decline of the village, the increase in the number of the mature population compared to the young. It becomes economically unprofitable to maintain a school staff (teachers, administration of service personnel) with a critically small number of students. In addition, education in classes of 5-7 students also cannot take place by the usual model and requires reorganization.

A study of the demographics of small villages in the central regions of Ukraine, where there is a need to unite students with an age difference of 2-3 years within a class, proves that the class will still remain compact, that is, no more than 20-25 students. In this regard, the problem of quantitative overcrowding disappears, and we can talk about small multigrade class groups. For example, one of our authors last year visited 3 small schools in the Vinnytsia region that were on administrative records as first candidates for closure. If this closure can be avoided, the consolidation of students in the lower, 5-7th, and 8-9th grades I-II will result in a class with an average of 13 students. That is, in terms of the possibility of closure in the central region of Ukraine, schools of grade I-II secondary education with fewer than 50 students are problematic. We hope that our modest research will inform the methodological and structural organization of small schools on the verge of survival. Outside of the educational reason for preserving small schools in villages with populations under 1,000 is that in such villages the school remains the only center and source of cultural and social development, preserving humanitarian traditions, and preventing the village from becoming a purely agrarian-productive unit with a maximally marginalized population.

The purpose of the article is somewhat staggered (separate objectives): to analyze Ukrainian ideas and traditions of collective educational activity in multi-age classes, to select relevant concepts and to supplement them with summaries of leading foreign experience in order to lay the foundation for the reform of small Ukrainian schools, which are on the verge of existence.

Literature analysis was conducted according to theoretical (typology, comparison, analysis and generalization) and pragmatic (extrapolation, partly - modeling and forecasting) settings. At the same time, the authors deliberately analyzed separately Ukrainian and foreign literature, because a preliminary

review of the literature revealed a methodological and epistemological dissonance: thus, Ukrainian and Soviet studies of the organization of collective forms of work in rural small schools focus on the psychological and pedagogical features of the organization of collective activity.

The majority of works structurally describe the meaning and essence of collective multigrade activity of children without taking into account individual ontological and microsocioal parameters. These are mostly studies by the classical teachers L. Tolstoy (1912), S. Shatsky (1980), A. Makarenko (1990) and the socio-pedagogical studies of L. Bayborodova (1988), etc.

It should be noted that since the 1990s, collective activity, which is based on the principle of inter-age interaction, has received a lot of attention in the Ukrainian psychological and pedagogical literature. The priority of collective multi-age learning was noted by V. Dyachenko (1991) and his followers: M. Baterbiev (2003), M. Mkrtchyan (1999) and others. Some researchers, L. Bozhovich (1995), G. Kostyuk (1989) justified the advantages of inter-age interaction and its importance in the mental development of the child, but most of these works focus on the problems of organization, leadership and achieving collective results. But most of these works focus on problems of organization, leadership, and achieving collective results.

Numerous foreign comprehensive studies on the subject of teaching children in multi-age classes have proven that such students are more academically successful and will be more efficient workers in the future, and this will have an impact on production and the economy. Local education authorities and general administrators, especially in developing countries, are inclined to save financial and human resources, and thus to form as large classes as possible (Blatchford et al., 2003).

In the political and economic context, the need for multi-age student teams for the sake of the "survival" of small Ukrainian rural schools in our country is seen as a necessary step, which will entail a number of educational (especially didactic) drawbacks. Foreign scholars view not only a constructive way out of this situation, but also positive consequences.

Since Ukrainian education, even at the stage of the path to European education, is based on strong, sometimes conservative traditions, we understand: it is impossible to implement an ideal model of multi-age class (Berbets et al., 2021; Gurevych et al., 2020; Komogorova et al., 2021; Maksymchuk et al., 2020a; Shahina, 2017; Zhurat, 2020). Therefore we decided to separately consider and analyze the theoretical generalizations of Ukrainian teachers and the theoretical and methodological experience of foreign teachers about the collective educational activity of the multi-age class and on the basis of this by methods of extrapolation, induction and

partial modeling of educational conditions to select the most relevant methods of new educational conditions for the future reform of Ukrainian small schools.

The hypothesis of the study is an affirmative thesis about the possibility of reforming small schools by organizing multi-grade classes with an emphasis on collective and interactive work with the maximum possibility of differentiated instruction. In addition, we believe that in today's globalized society, focused on changing the today's educational paradigm, small classes or/and different age of classmates is more an essence of development than a disadvantage or a forced measure.

2. Collective forms of work in multi-age classes. A critical analysis of the Ukrainian educational discourse

The newest tradition of multi-age classes in Ukrainian education dates back to the late 1940s, when World War II left millions of children without educational services for 5 years. Within the educational paradigm there is a tradition: in such classes should be dominated by collective forms of work and mutual assistance.

In the Ukrainian psychological and pedagogical studies devoted to the problems of collective activity of students, special attention is paid to the conditions of its successful organization. In particular, these include: the presence of a common, significant for each participant goal of collective activity, its understanding by students (Kotov 1977, Margulis 1990); training of students for educational cooperation (Cheredov 1988; Kotov 1977); organization of proper leadership of collective activity within the group, class (Kotov 1977, Cheredov 1988); positive attitude of students toward collective activity, Margulis (1990); establishment of mutual understanding between them (Kotov 1977, Margulis 1990); organization of joint efforts of students to achieve the goal of activity, the establishment of mutual understanding between them (Kotov 1977, Margulis 1990; Maksymchuk et al., 2020b; Melnyk et al., 2021; Nikolaienko et al., 2021); study of individual characteristics of students, as well as interpersonal relationships in the team (Cheredov 1988; Vasileva 1988).

Considerable attention was paid by scientists at the end of the last century to the definition of didactic and educational purposes of the application of forms of collective activity; development of the structure and content of tasks; development of ways to organize collective forms of work (Vasileva, 1988). Priority was also considered to provide each student with opportunities for active participation in collective activity; obtaining a rich and diverse experience of communication and joint activities in the team;

using in the team such rules and norms of interaction that make the interests of personal development of children dominant; reproduction of social reality in the practical activities of the team (Nemov, 1995).

In order to highlight the psychological and pedagogical features and traditions of the organization of collective forms of work in different age groups, we clarify the key concepts that were used and are used by Ukrainian methodologists within the framework of related topics of our study. The most frequently used concept is that of organization. The essence of its pedagogical interpretation is based on the philosophical understanding. Thus, the Philosophical Encyclopedic Dictionary (1989, p. 453) defines organization as a form of well-established interrelation of system elements in accordance with the rules of its existence; as a process or state of composition, structure, type of system functioning. It is further noted that the main characteristics of organization are ordering and direction of organizing.

In the psychological and pedagogical literature, group work as a form of collective activity is defined as a way of organizing joint efforts of students aimed at solving a specific problem within the group (Kotov, 1977, p. 37). According to the opinion of I. Pervina (1985, p. 19), the use of group forms of work is determined by specific didactic and educational goals, age features of students, their level of preparation and the development of skills of collective activity. Group work, the researcher notes, gives the desired results only when solving such tasks that require students' cooperation and joint action.

Let us dwell in more detail on certain aspects of collective educational activity, which were published by the Ukrainian scientist (the problem was topical at the end of the twentieth century).

The problem of optimum quantitative composition of groups in psychological and pedagogical literature is given much attention. It is caused by that scientists see in it one of the basic conditions of successful functioning of a group subject. However, the analysis of scientific sources has shown that there are different approaches to the definition of the number of groups. It is accepted to consider as a small group an association of 2 to 30-40 people in social psychology. In pedagogy, the optimum number of group members ranges from 3 to 8 people. In this case it is noted that in each specific case the size of group depends on the purposes and tasks of activity, specificity and volume of concrete actions (Yaroshenko, 1997, p. 30). The opinion of I. Pervina (1985, p. 20) who notes that too small a number of group members does not promote formation of necessary connections and dependences which would give pupils an idea of social

importance of collective activity and necessary experience of work in the collective is also true in this case.

A number of factors influence the formation of the quantitative composition of groups in a multi age group of a rural small school. The most important Ukrainian didacticians considered didactic purpose and content of the subject activity. However, they also took into account the number of different-age groups. As a rule, it had to be small and characterized by an uneven distribution in classes (say, in the 2nd class there are 6 pupils, in the 3rd - 4 pupils). In this case we should take into account the possibility of parity involvement of students of all classes in group activity, quantitative evenness in the distribution of groups, obligatory inclusion of older students in the membership of each group (possible leaders).

The problem of qualitative composition of groups is also characterized by ambiguity in the Ukrainian scientific literature. The analysis of domestic and foreign experience of the organization of group activity carried out by T. Vasilieva (1988) has shown presence of different positions of teachers in qualitative staffing of groups. In our research we share the opinion of scientists who suppose that heterogeneous groups formed on the basis of the principle of "relative homogeneity" of intellectual development of students are pedagogically expedient (Kotov 1977, p. 43; Pervina 1985, pp. 19-20). The priority of this approach in our case is conditioned by the different-age composition of the student body of a rural small school and, consequently, by the different level of intellectual development of its members. Such composition makes it possible to avoid an official division of students into "strong and weak", to replace mutual help with one-sided help on the part of strong students.

Scientists consider age differentiation as a peculiarity of the organization of activity in groups of the different ages, which actualizes the need to clarify the optimal age range within the group. The research of E. Dymov (2002) is valuable in this respect, which proves that pedagogically expedient is an age interval of 3-4 years. The author notes that such an age difference makes it possible to actualize the position of the older pupils, ensures active involvement of the younger ones in joint activities, which is conditioned by the importance for them of cooperation with the older children.

In our opinion, the multi-age organization of group activity in this range creates the prerequisites for the effective development of students. On the basis of the analysis of works on age psychology we made an attempt to find out the possibilities of different-age interaction in the personal development of a junior high school student. In our reasoning we proceeded from the position of a systemic approach, which allows us to treat a

different-age group as a certain system resulting from the integration (association) of separate, qualitatively heterogeneous units (subjects of group activity - students of all ages).

Interacting, these "units", each of which is a systemic formation integrating various psychological and personal characteristics, form a new systemic quality (Semychenko, 2004). Thus, in the course of the analysis we should find out how these or those characteristics are manifested in different-age interaction and what new qualities are formed in the process of their integration.

At the beginning of the third millennium the object of the analysis more and more often becomes the personality of a schoolchild of a certain chronological age period and the influence of the heteromorphic collective on it. According to S. Sysoeva & T. Poyasyuk, (2005) research on personality structure, we consider cognitive (sensation, perception, memory, attention, thinking, imagination and creativity, speech), affective (feelings, emotions, will), motivational-activational (leading type of activity, needs, motives) and social and psychological (interpersonal relations, communication, socialization) personal areas to be important structural components of system analysis. Individual typological characteristics of personality (character, temperament, abilities, predispositions, etc.) were deliberately not included here, as it does not have typical manifestations and are purely individual.

Thus, the rise of the domestic pedagogical discourse on small and multi-age classes became relevant in the 1980s and 1990s. At the same time, more attention was paid to systemic, organizational and activity aspects. Students' age (psychological and pedagogical) abilities and needs of the student were taken into account. At the same time, the main task of the teacher was to plan, manage, and achieve a specific goal in a heterogeneous class by methods of cooperation, mutual assistance, and other forms of collective activity. However, we also encountered more valid ideas. They are summarized and presented by us in the Conclusions section.

3. Organization of educational teamwork in multi-age classes. Analysis of international theoretical and methodological discourse

Recently, the problem of collective educational activity in multi-age classes has acquired a new meaning, and not only forced integration of classes (mainly in rural small schools in developing countries), but also pilot projects on experimental integration of classes for the sake of creating non-standard educational conditions have become the object of study.

Multi-age education is also associated with a shortage of teachers in some countries (mainly African countries and remote regions of large states), but in Europe, particularly in Ukraine, this problem has a different cultural and social context: the country is included in the globalization processes, adopts the European experience of implementation of modern education, has its own educational conservative problems, and therefore still needs at the theoretical level of development and justification of pilot models of multi-age learning in a joint team. H. Saqlain argues that this is also a problem of higher education institutions around the world that traditionally prepare teachers to teach and educate their classmates (Saqlain, 2015). In this regard, we believe it is necessary to recommend that domestic continuing education institutions create professional development courses for teachers to work in compact multi-age classrooms.

We have analyzed a number of social-philosophical and educational works of international discourse and concluded: the subject of our study is partial within the problem of interaction of subjects of all ages in socially significant situations and real groups. This includes multi-age work teams, individual or socially meaningful network communication of different generations, comparison of productive efficiency of young and experienced workers. It is possible to identify both personally and socially significant parameters of heterogeneous team members: efficiency, individual satisfaction, absence of conflicts and contradictions, etc.

In addition, scientists note that the emotional, cognitive and neurophysiological profile of team members also depends on mental cultural and historical factors. For example, the aging of the population in Europe and the growth of retirement age (Romania, Germany) contribute to the inclusion and alignment of values of people of different generations. At the same time, traditions of early separation of young people from their parents and early employment (the United States) promote early socialization and the natural alignment and integration of young people in multigenerational collectives (Berde & Rigó, 2020). That is, cultural and value integration is easier in today's society than aligning biologically determined parameters of endurance, memory, motivation, etc. We make these generalizations for a broader scientific context, while realizing that we will not model the joint educational activities of subjects who differ from one another in age more than 5 years in the future.

Scientific publications of the late 19th and early 20th centuries record considerable experience with the varied effects of learning and teaching in small classes with children of the same age. For example, educators and policymakers disagree on the economic feasibility of small

class sizes: educators believe that students in an optimally full or small class size receive a better education. We have even found sporadic sources that have experimentally proven that small classes have a positive effect on academic achievement, but slow the growth of social adjustment (Finn, & Achilles, 1999). Naturalistic research also supports a significant number of arguments in favor of small classes. A particular small class effect is felt when students have been in a small class from the beginning of school and have not experienced the stress of reformatting or team consolidation (Blatchford et al., 2009, p. 779).

We are impressed by studies that focus less on academic achievement and more on social, communicative, and psychological aspects. For example, L. Anderson finds that in a small class the greatest realizable effectiveness of a teacher who "can embody almost everything planned" (2000, p. 22). For his part D. Grissmer proved a greater effectiveness of engaging younger students in collaborative pair interactive work, and also noted a higher quality organization of personal behavior and student-student, student-teacher relationships (Grissmer, 1999). We believe that the above arguments of authoritative scientists are enough to envisage the effectiveness of the multi-age class at all and look for a compromise of solutions between compactness and diversity. That is, we have two output parameters: compactness (being in a single room moderated by a single teacher) and diversity due to slight age differences (Tasheva & Hillman, 2019).

Positive for the purposes of our article are the views of a group of scholars who believe that multi-age classes should be created artificially: "research on both cognitive and affective factors in different age contexts regularly demonstrates positive, sometimes significant, increases in effect. Studies of different types of grouping of students by ability have shown that the most reliably positive and results will be in the setting of a differentiated program," (Lloyd, 1999, p. 187). That is, students with similar educational intentions, sufficient and high levels of achievement, and aspirations should be integrated first. In the case of small Ukrainian schools, grouping students by ability is almost impossible. In our opinion, the collective integration of children with different abilities, levels of knowledge and insignificant differences in age will strengthen the exit of all participants in the educational process from the comfort zone, diversify the educational environment and promote social and educational philosophy of unity of diversity, inclusion in a single educational process. heterogeneous subjects, which in general should give a synergistic increase. For example, researchers have noticed: in the workplace or in the work of a service office character, older subjects tend to be controlling. They have negative attitudes toward

the younger generation and have a hard time changing their minds. And younger subjects are more diligent, situationally flexible, but less systematic and consistent when running errands (McCann & Giles, 2006, p. 74). These findings apply to socially engaged adult subjects, but we hypothesize that such inconsistencies in the student body will be more exacerbated even with a smaller age difference, because we know that predictors of excessive subordination, authoritarianism, and bullying in school can be an age difference of several years, the onset of puberty in older subjects, and so on. On the other hand, we predict that in the micro-team directly during the interactive interaction these disadvantages can be easily transformed into new attractors of interaction. At the same time, students will experience moderate discomfort and dissonance, which will force them out of their comfort zone, and thus - to develop.

The empirical works on testing the real effectiveness of multi-age classes are interesting for us. For example, S. Veenman back in the mid-1990s compared the "cognitive and non-cognitive effects" of multi-age classes in elementary schools. Most of the results were positive, or found no harm to the educational process in a multi-age classroom (Veenman, 1995). Based on an analysis of domestic and Western European works, we conclude that a mixed-age classroom can be an administrative tool to avoid small classes and to reinforce the fight against stereotypes about the excessive role of age differentiation. It can also be a social and educational tool to implement the synergy of individual (differentiated) and social (integrated) in education. The main mechanism for this we consider the managed behavior and socio-didactic interaction of demographically, neurobiologically and academically heterogeneous subjects of the educational process. New quality and results of educational activity can be expected under such school-specific, but socially natural conditions.

Multi-age, extracurricular interaction between subjects also provides encouraging perspectives on important anthropological parameters such as reliability and trust. Experimental social play in several multi-age groups, where participants with an age difference of up to 5 years interacted, revealed: in each group a sufficient or high level of trust; in the multi-age children's groups trust increases rapidly with socialization; in the multi-age adult groups from 18 to 65 years, trust is at a fairly high plateau level. The study was conducted with more than a thousand respondents (Sutter & Kocher, 2007). It can be concluded that multi-age interaction in a limited team exhibits psychosocial aspects of effectiveness (mutual trust and reliability), it can be the basis for effective transformative, constructive, economic activity. M. Sutter and M. Kocher proved that the most effective

interaction takes place in pairs or microgroups with a small difference in age (2007, p. 371): which once again proves: classes should be combined with differentiation into 3 - 4 groups within school age.

In many developing countries, compact multigrade classes are created involuntarily for demographic or economic reasons; instead, the educational benefits of cooperative multi-age learning are considered second nature. There is also the practice of multi-age teaching (usually two or three classes combined into one). In recent years, scholars have endorsed the creation of multi-age classes and teams, which they believe are micro-models of modern society: "The multi-age environment is a natural environment for students. They are in a team of intellectuals where they learn from each other. They are teachers, educators, peers, friends, and role models for each other at the same time. They help, teach, and lead each other" (Saqlain, 2015, 285).

Social obstacles to the implementation of science education are stereotypes, parental prejudice, and student fears. The latter believe that they will experience pressure, bullying or other inequalities from older students (Aina, 2001). Thus, our article should outline not only the perspectives of effectiveness, social expediency, but also the protection of personal rights and personal space of the child. From a didactic point of view, it should be understood that education is a tool for the child's broadest development, social, psychocognitive and psychoadaptive. The academic content of education is secondary, or rather it is not programocentric (Stone, 2004). This is consistent with the contemporary framework nature of expected educational goals and the ultimately undefined ultimate goal of schooling. Compensation of didactic shortcomings of such education, in our opinion, is the maximum differentiation of educational content (as much as possible), implementation of philosophy of mutual help and mentoring; alternation of collective work and work in micro groups (mono- or multi-age pairs) is expedient.

4. Organization of collective educational activities in multi-age classes in Ukrainian schools. Challenges and recommendations for solutions

In the previous sections we have considered the views of Ukrainian and foreign scholars on multimodal aspects of teaching children in multi-age classes, conducted a sociological survey of a limited sample of Ukrainian teachers of small schools. This allowed us to highlight specific pihologo-pedagogical positions of modeling work in the multi-age classroom, taking into account Ukrainian educational traditions and the transitional stage of today's education, then we can make some preliminary metaphysical conclusions. First, the study

of the problem of organizing collective forms of work of students in rural small schools requires an understanding of the psychological and pedagogical features of the organization of collective activity in a team of different age groups, since such an institution by its structure is a combination of two or more different-age groups of children (classes).

Secondly, a preliminary survey of teachers of small classes proved: the organization of collective forms of work in the multi-age team of Ukrainian schools has a number of significant features, traditional and innovative. These features require the following organizational and medical actions: the need to determine the collective subject based on the chosen form of collective work (pairs, groups, class as a whole), taking into account the requirements for quantitative and qualitative composition; the choice of the best way to organize collective activity within the chosen form; organization of collective activity of students in accordance with its structural elements: setting of tasks, instructions for their implementation; distribution of roles in joint activity and ensuring fulfillment of role obligations; obeying the given rules of joint work; building business and interpersonal relationships based on cooperation and mutual assistance; joining efforts to achieve an aggregate result; reflective analysis of joint work; creation in the team of emotionally favorable personal relationships using an inter-age approach. Consideration of these features will help the teacher of a rural small school to effectively organize multi-age collective activities of students, enrich their experience of productive communication with classmates, it will contribute to the personal development of children and ensure the creation of a psychologically comfortable climate in the team.

Based on a semi-structured survey of teachers of Ukrainian small classes, as well as on the analysis of the literature presented in the list and many other sources, we selected a number of recommendations and extrapolated them to the traditions and current realities of the Ukrainian school. As a result, we can present a list of innovative for our educational space recommendations for the organization and work of compact multi-age classes with administrative assistance in their formation:

1. The historical and regional traditions of organization and educational work in non-standard classes should be taken into account.
2. Social mental and psychological marginalization of rural population should be taken into account, because there is no need to form multi-age classes in cities.
3. The focus should be on individual educational and social needs of a schoolchild which will be met by resources of a heterogeneous team

(cooperation mentoring synergy, project, cognitive and transformative activities in multi-age microgroups, etc.).

4. The naturalness of interaction between children of all ages must be taken into account. This interaction can easily be observed in extracurricular activities such as recess (play, friendship, rivalry, competition, leadership, taking an example, craving for authority from the younger ones, etc.).

5. To be guided by the following principle: multi-age interaction of children promotes their social alignment and forms acceptance, tolerance, and appreciation of people with different physical, mental, and social abilities (equality and the value of diversity).

6. The teacher should appropriately and paritably emphasize moments of individual and collective success; stimulate joy of common results of activity.

7. The teacher should have a wide range of methods of leading support, moderating and effectively combining individual and group learning.

8. Multi-age teacher's methodological arsenal should include an expanded set of technologies, tools and didactic materials (composed taking into account age, differential, individual, interactive, collective principles of learning and extracurricular interaction).

9. Some learning time should be identified and carefully scheduled, and some should be left for tactical pedagogical improvisation.

10. Prefer modeling, moderating, counseling, and conflict resolution, and secondarily, direct transfer of knowledge and guidance.

11. Be an administrator and senior comrade, guiding and encouraging.

Therefore, the basis for collective work in a class heterogeneous in age is mutual learning, mutual counseling, natural stratification, and students being comfortable in a micro society (social hierarchy in a heterogeneous group). The teacher should observe how microgroups and hierarchies are formed within the heterogeneous class and individual students acquire distinct social roles and positions: observer, counselor, mentor, leader, protector, subordinate, performer, etc. The main criteria of moderating are tracking students' self-actualization, personal intentions, students' social and cognitive pretensions, and support for constructive and destructive social roles (observer, consumer, conformist). At the same time, we predict that the level of a student's social or academic position in a heterogeneous team will not always be directly related to age. For example, younger students may be informal leaders or counselors.

5. Conclusions

The study theoretically proves the possibility and hypothetical effectiveness of multi-age classes with an emphasis on collective and interactive work with the maximum possibility of differentiated learning. This should take place according to the principle "the teacher and the most experienced student help the youngest, with the older / more competent student realizing their social needs (leadership, self-assertion, patronage), and the youngest, in addition to knowledge, acquires skills of working in a heterogeneous team)". Thus, the theoretical validity of the hypothesis presented in the introduction to the article has been theoretically proved. It is also proved that on the basis of the primary demographic-educational problem (forced unification of classes in Ukrainian small schools) it is possible to embody the principles of unity of diversity, natural for an open multimodal liberalized and globalized society.

Analysis of the domestic literature on the topic allows us to summarize: in the Ukrainian (mostly Soviet) tradition, the basis of the educational activity of multi-age class were collective forms of work and administrative-directive way of coordinating them. However, there are some valid patterns for the current realities in Ukrainian-Soviet studies:

1. The organization of collective forms of work involves ordering, bringing into a system based on cooperation ways of interaction between teachers and students, students with each other, aimed at solving a common educational problem. Built on an expedient combination of components of such interaction as an integral dynamic system, it contributes to its effectiveness.

2. Taking into account certain differences of collective activity of students, which are manifested in the conditions of paired, group and frontal-collective work, the Ukrainian scientists considered the features of its organization in the multi-age team differentiatedly. In addition, given that paired and group forms of work are related and have many distinctive features, most researchers consider them together, although they adhere to a certain differentiation.

3. To features of the organization of group work of schoolchildren domestic scientists refer the following parameters: the number of groups, their structure, structural elements of group activity, ways of the organization of activity, regulation of interpersonal relations in the group, specificity of pedagogical management of groups, etc.

Unfortunately, the historical tradition of Ukraine is the command nature of the management of a heterogeneous class and the achievement of

clearly defined common goals. The organization of collective forms of work is obliged to ensure the rational functioning of the process of management of collective activity of students by the teacher. That is, more emphasis was placed on cooperation rather than interaction, managed rather than natural micro-social processes.

Current foreign studies are characterized by a comprehensive approach to the organization and self-organization of the educational process in a multi-age group, with socio-educational, personal-psychological and developmental aspects being the main ones. First of all, these studies have shown that the peculiarity of joint activity of persons of all ages lies, not in overall effectiveness, but in personal and interpersonal (mutual perception and attitude to each other, to work together). This efficiency will determine the general microclimate of the group. The latter already has to do with overall efficiency as well. We predict that this increase concerns more not academic successes, but the formation of universal, obligatory for modern society competences: social adaptability, preservation of self-identity in the environment of maximum entropy, flexibility, ability to solve unpredictable problems of interpersonal and production plan.

In our opinion, the teacher should be a counselor, a moderator, and a last resort in resolving conflicts and contradictions. He should also maximally promote interactive, interpersonal, paired, collective interaction, monitor the naturalness, equality, measure and legal status of academic and social stratification in the heterogeneous class: manifestations of leadership, identification and realization of students' mentoring needs (counselors) or the need for patronage. This means that the multi-age group can become a microcosm of society with little stratification, which will only have a positive effect on its subjects.

Let us also summarize that on the basis of analysis, extrapolation, and further generalization we have formulated 10 framework recommendations for organizing an effective and comfortable heterogeneous student collective (see the previous section).

6. Limitation of the study

We believe that the greatest challenge to the implementation of educational work in a multi-age class is the programmatic (academic) distinction between students of all ages. We have been unable to provide at least a few constructive recommendations to address this problem. This constitutes a limitation of the study, which requires the development of didactic aspects proper. It also requires further methodological resolution of the minor age and

psychological differences between multi-age children and the expedient selection of synergistic methods and forms of intragroup interaction.

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