

Development of Social Competence in High School Students in the Context of Non-Formal Education

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Abstract. The paper describes an issue of development of social competence in high school students in the context of non-formal education. The research experiment involved 647 high school students from seven Ukrainian secondary comprehensive schools in Ternopil and Ivano-Frankivsk regions. The diagnostic methods, applied at the pre-experiment stage, were specified with key components of social competence structure. The corresponding criteria, indicators and descriptive scale of levels of formation were substantiated and characterised. Findings of the diagnostic survey indicated a significant lack of social competence of a future school graduate.

The necessary socio-pedagogical conditions of realisation of the main provisions of non-formal education, were introduced in the course of the experiment from September 2017 until June 2019. They implied stimulation of the subjective position of a student, provided socio-pedagogical support and monitoring, modernisation of content, forms and methods of non-formal education, organisation of amateur space and support. Various forms of realisation of non-formal education resulted in significant positive shift of development of social competence in participants of experimental groups.

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The comparative correlation of post-experiment survey estimated increase in number of students with high level of social competence up to 15% and decrease in number of respondents with low level up to 11%. Final analysis of the obtained data verified the hypothesis of the research and proved the significance of shifting focus to non-formal type of education from the formal type in development of social competence in high school students.

Key words: social competence, key components of competence structure, non-formal education, diagnostics, high school students.

Bendrojo lavinimo mokyklos mokinių socialinės kompetencijos ugdymas neformaliojo ugdymo kontekste

Santrauka. Straipsnyje aprašomas vyresniųjų klasių mokinių socialinės kompetencijos ugdymas neformaliojo ugdymo kontekste. Eksperimentiniame tyrime dalyvavo 647 bendrojo lavinimo mokyklų mokiniai iš septynių Ukrainos Ternopolio ir Ivano-Frankivsko sričių bendrojo lavinimo mokyklų. Išankstiniame eksperimento etape naudoti diagnostikos metodai buvo papildyti pagrindiniais socialinės kompetencijos komponentais, sukurti ir apibūdinti atitinkami kriterijai, rodikliai ir aprašomi formavimosi lygių skalė. Diagnostinės apklausos išvados parodė, kad būsiamiems mokyklos absolventams labai trūksta socialinės kompetencijos.

Eksperimento metu nuo 2017 m. rugsėjo mėn. iki 2019 m. birželio mėn. buvo sudarytos būtinos socialinės ir pedagoginės sąlygos pagrindinėms neformaliojo ugdymo nuostatoms, kurios apėmė mokinio subjektyvios pozicijos stimuliavimą, teikiamą socialinę ir pedagoginę pagalbą bei stebėseną, neformaliojo ugdymo turinio, formų ir metodų modernizavimą, erdvės ir pagalbos organizavimą, realizuoti. Įvairios neformaliojo ugdymo realizavimo formos lėmė reikšmingą teigiamą eksperimentinių grupių dalyvių socialinės kompetencijos ugdymo poslinkį.

Lyginamoji poeksperimentinės apklausos rezultatų analizė atskleidė, kad aukštą socialinės kompetencijos lygį turinčių mokinių padaugėjo 15 proc., o žemą lygį turinčių respondentų sumažėjo 11 proc. Galutinė gautų duomenų analizė patvirtino tyrimo hipotezę ir įrodė, kaip svarbu ugdant vyresniųjų klasių mokinių socialinę kompetenciją perkelti dėmesį iš neformaliojo ugdymo į formalųjį.

Pagrindiniai žodžiai: socialinė kompetencija, pagrindiniai kompetencijos komponentai, neformalusis ugdymas, diagnostika, vyresniųjų klasių mokiniai.

Introduction

Development of social competence of high school students at the present stage of social development require attention of researchers and scientists. The school graduates lack practical social skills, necessary for life adaptation in changing social conditions, knowledge and socio-moral guidelines to operate when overcoming challenges of social interaction. Social competence formation is strongly recommended to senior schoolchildren, in this context it includes, first of all, development of the ability of effective teamwork, secondly, productive interaction skills in the social environment, and lifelong improvement of one's own social qualities.

The significant role of social skills has already been emphasised in the Council Recommendation on key competences for lifelong learning (2018) and in the new European Skills Agenda (2020). Attention is drawn to the importance of personal, social and learning to learn skills, abilities of physical and emotional support, a health-conscious life-style, future-oriented life, conflict management skills. Development of social skills alongside with a definition of 3 competence areas, a list of 15 competences, learning outcomes and proficiency levels, to be referred to with future initiatives has been also addressed in Developing a European Framework for the Personal, Social and Learning to Learn Key Competence (2019), the Entrepreneurship Competence Framework (2016) and regarded as an important strategy in European Commission documents (2015).

In the modern pedagogical theory and practice there is a strong belief that achievement of the above mentioned education goals is impossible only by means of formal education. Therefore, more and more attention is paid to non-formal education of high school students. Educational system is comprised of formal, non-formal and informal types of education where each of them has their own characteristics, values, principles, ways of organisation, and the diversity of settings that they are implemented in, therefore, non-formal education can be applied within this context in interaction with all the structural elements. The common practices of non-formal learning in Ukraine include educational activities related to student clubs, media, museum, library education, various outside-of-school activities, also volunteering.

While attention of researchers has been focused mainly on substantiating the competence approach to the organisation of the educational process in general secondary education, the problem of social competence acquisition in high school students by means of non-formal education had not been the subject of independent research yet. The authors of the presented study consider means of non-formal education to be a set of principles and educational attitudes, which define the methods selected by teachers, as those, which are focused on learning outside the traditional school system. Also it assists in the transfer of knowledge and skills better meeting the learners' needs. The current situation slows down the implementation of the competence approach in the common practices of non-formal education in Ukraine, which becomes a serious obstacle to a proper formation of social competence in high school students. Scientific investigation of this field of study requires to highlight the structural components of process of development of social competence formation in order to establish the relationships and interdependencies of this practice of its effective implementation.

Complexity of practical implementation and ambiguous character of the problem contributes to its significance. The relevance of the **research objective** is enhanced by the contradictions determined in result of the theoretical analysis and practical experience of its implementation, namely, between the high school students' need in development of social competence and the lack of the systemised teaching resources, recommendations, and curriculums in the field of non-formal learning. The flows of the normative basis of its realisation in Ukraine contributed to the absence of the accepted algorithm of recognition of results of quality of non-formal education in school to validate the competencies developed in its context, in particular, a social one.

Research questions: What are the key components of structure of social competence in high school students? Can development of social competence in high school students be enhanced in non-formal education?

Research hypothesis is that the determined conditions of non-formal education setting of learning make a strong and positive effect on development of social competence in high school students.

Analysis of recent publications

The problem of diagnostics of competence formation, especially a social one, is not new to the pedagogical science. Due to the complexity of social interactions, social competence is considered to be the product of a wide range of cognitive abilities, emotional processes, behavioural skills, social awareness, and personal and cultural values related to interpersonal relationships (Orpinas, 2010).

To further complicate the understanding of this concept, the scholars relate social competence to developmental characteristics (i.e. expectations of social competence vary by age of person), the specific social situation (i.e. people may be socially competent in one situation but not in another, or a child may appear more competent when interacting with a socially skilled partner than with a shy person), and cultural characteristics (i.e. specific acts of social competence are bound by cultural expectations).

In the modern Ukrainian scientific mainstream, a tendency is observed to define non-formal education as an important environment for the implementation of the competence approach in education. The discussed aspect of the problem has been investigated in the works of Andrushchenko (2013), Kravchenko (2020), Mykhaylenko, Blyzniuk (2022), Sukholova (2020), Sultana (2019), etc. Practical and theoretical foundations of non-formal education have been explored by Debarliev (2022), Dumitru (2018), Gloria (2014), Latchem (2014), Maruyama (2013), Moldovan (2015), Prasetyo (2021), Simac (2021). In recent publications attention by Colardyn (2004), Ovcharenko (2013), Tisza (2020) was paid to comparison of formality and informality in learning.

In the aspect of our research it is important to clarify the authors' understanding of the concept of non-formal education. We consider the non-formal education to be a process of additional dialogical learning of high school students targeted at providing development of social competence, this setting of learning is organised outside of content, forms and methods of the formal education. In this line, the contribution of Mizova (2017) explores various forms of realisation of non-formal education because the author studies social competence as key one and analyses some practical models of its formation through non-formal educational activities, namely media, museum, library education, and outside-of-school activities. Also, Norqvist and Leffler (2017) consider volunteering an important area of non-formal education of European youth.

Furthermore, Paczycka-Jkdrycka, Jubkowska, & Jocca (2015) offer methods and techniques (i.e. energizers, ice-breakers, team-building tasks, communication and projects games) of non-formal education that can be used to develop social competence. While Yatsenko and Chorny (2019) highlight games as an effective method of non-formal education.

The following benefits of developing social competence through non-formal education have been identified: collaboration skills, self-confidence, decision-making skills, overcoming shyness, the ability to help others, caring for the weak and overcoming difficult situations (Paczycka-Jkdrycka et al., 2015).

However, scientists conclude that it is impossible to divide education into formal and non-formal categories. It has been estimated that integration of formal and non-formal education can provide high learning outcomes (Moldovan, 2015; Norqvist and Leffler, 2017; Tudor, 2017).

Non-formal education is proved to cover a wide range of functions in evolving conditions of social changes in order to promote development of social competence (Napierata, 2020). Its motivational function implies orientation of non-formal education on mastering and taking by a personality new challenges of life; informational function promotes development of ability to search, select and apply the necessary information; activity function gives a personality an opportunity to master new types of activity; axiological function orients a personality to accept socially determined set of values (Fedoruts, 2020 *a*, p. 564).

Structure of Social Competence

Measuring levels of formation of social competence requires investigation of structure of the object of study. In the aspect of diagnostics of development of social competence in high school students the contributions by Ukrainian and foreign scientists like Caena (2019), Khuziakhmetov (2016), Kochenderfer-Ladd (2019), Kuranchie (2021), Pavlyk (2014), Salyakhova (2015), Savelchuk (2021), Sleptsova (2019), Yudin (2014) present particular interest for interpretation the notion of social competence of high school students as the ability of an individual to active life self-determination and self-realisation in active social interaction based on acquired knowledge, skills, abilities and values. The differences in the approaches of researchers to the interpretation of the structural components of social competence allow to distinguish among three main directions in the studied issue. Some researchers believe that the leading components in the structure of social competence includes cognitive, value, personal, practical and activity (Junge, 2020; Daniel, 2022; Dryburgh, 2020; Parfilova, 2015; Vasyliuk, 2021): The others view the leading structural components as motivational-personal, motivational-emotional, cognitive-value, social-value (Kuranchie, 2021; Sharov, 2021). Finally, the structure of social competence may be interpreted as combination of cognitive-behavioural and behavioural components (Doktorovich, 2009; Sahuichenko, 2020; Smagina, 2010). Meanwhile, the cognitive-behavioural component is relevant to the subject of social activity, it includes knowledge about society and oneself, the ability to integrate them, social interaction skills, constructive ways of interaction in difficult situations; the behavioural component reflects the attitude to society, reproduced in the motivation, values and qualities of the individual, including motives for self-development and achievement, the value of “I” and the value of “other”, social responsibility, awareness of life as a leading motivational trend. The authors of the highlighted research follow the structure of social competence of high school students including motivational component, cognitive one, social values and activity-behavioural one. The *motivational* component stimulates high school students to understand their role and place in life, understanding the need for the formation of social competence because in our opinion in high school it is important to update the motivation of students. The *cognitive* component implies the presence of a

certain level of social intelligence, knowledge of society, social laws and social relations, knowledge of themselves and their place in life, the ability to self-determination and vital self-realisation, understanding the laws of social life and development of society and the world. The *socio-value* component reflects the formation of high school students' sense of self-worth, understanding of leading universal values and their place in the hierarchy of personal values, human rights, human dignity, the formation of social responsibility, awareness of the need to protect rights and interests without violating the rights of others, principledness, tolerance, formation of socially oriented value orientations. The *activity-behavioural* component promotes the formation of readiness of high school students to cooperate, to work in a team, the ability to work productively with different partners in the group and team, to perform different roles in the group and team, to be able to find compromise and understanding with other people and behaviour, the formation of skills and abilities of effective interaction with society, productive cooperation with adults and peers, fulfilment of social roles, fulfilment of basic social responsibilities manifested in learning outcomes, attitudes and interactions with seniors and peers, and compliance with school rules. Based on the analysis, the social competence of a high school student is defined as a complex integrated characteristic of personality, which includes interdependence and complementarity of components: motivational, cognitive, social value, activity-behavioural, allowing high school student to adapt and self-realise in modern society (Fedoruts, 2020 a, p. 564).

Research methodology

Sample

The participants of the research include 647 high school students, experimental group – 325 and control group – 322. The experiment has been carried out from September 2017 until May 2019 in seven Ukrainian comprehensive schools in Ternopil and Ivano-Frankivsk regions. The other people involved in the experiment have been selected from teachers, parents, experts in the field of Ukrainian tourism and regional studies.

Instruments and Procedures

The carried out research involved application of a number of diagnostic methods, defined by the key components and interconnected with the respective criteria and their indicators; while the results obtained in the postexperiment survey were interpreted with help of the mathematical and statistical methods of data processing, Student's t-test method and comparative correlation.

The initial stage of the experiment aimed at assessment of the primary level of formation of social competence in high school students in accordance with components, criteria and indicators, determined by its structure.

For example, the motivational component is related to the motivational criterion with the inductive indicator that has been reported by means of "*Methods of diagnosis one's motivation for success*" by T. Ehlers and Questionnaire "*Motivation for success and*

avoidance of bad luck” by A. Rean; the cognitive component has been defined with help of J. Guilford’ *Social Intelligence Test* by means of educative indicator; the behavioural component has been defined by performative indicator with help of *diagnostic method of social communicative competence* by M. Fetiskin, V. Kozlov, G. Manuilov; the social-value component – with help of the *diagnostic methodology of value orientations* by M. Rokeach by means of personality-reflexive indicator.

Results

The theoretical and methodological analysis of definition and features of development of social competence in high school students in the context of non-formal education caused logical sequence and methodology of the research paper.

At the preexperimental stage of the research, the initial state of development of social competence has been evaluated in high school students in control and experimental groups. The diagnostic survey aimed at assessment of levels of formation of the key components of social competence structure.

The indicators of the formation of the *motivational component* of social competence of high school students is considered to correspond to the degree of development of their motivation to succeed. The level of formation of this component is also evidenced with help of demonstration of students’ feelings of affection, respect and care of one’s family, country; one’s spiritual and cultural heritage. It is also manifested in the awareness of one’s own professional and personal self-determination; in a desire to be actively involved in non-formal education, in a pursuit of self-realisation, mutual assistance, a wish to be needed and be helpful. As a result, formation of motives allows high school students not only to engage in various social activities, but become their need.

Thus, to study the formation of the motivational component of social competence of high school students used the method of diagnosis of motivation for success by T. Ehlers. The results of the formation of motivation for success in high school students of the control and experimental groups are presented in Fig. 1.

As you can see, 14.8% of high school students in the control group showed a low level of motivation to succeed, 38.9% – medium, 33.6% – above medium and 12.7% – high. High school students in the experimental group showed almost identical results: 15.3% had a low level of motivation to succeed, 39.4% – medium, 32.1% – above medium and 13.2% – high.

The level of formation of the *cognitive component* of social competence in high school students can be measured to some extent on the basis of development of one’s social intelligence, which includes one’s understanding of the essence of activity in society, its place and role in human life; knowledge of the principles and values of society. It was measured with help of social intelligence test by J. Guilford and M. Sullivan. The results of the formation of social intelligence in high school students of the control and experimental groups are presented in Fig. 2

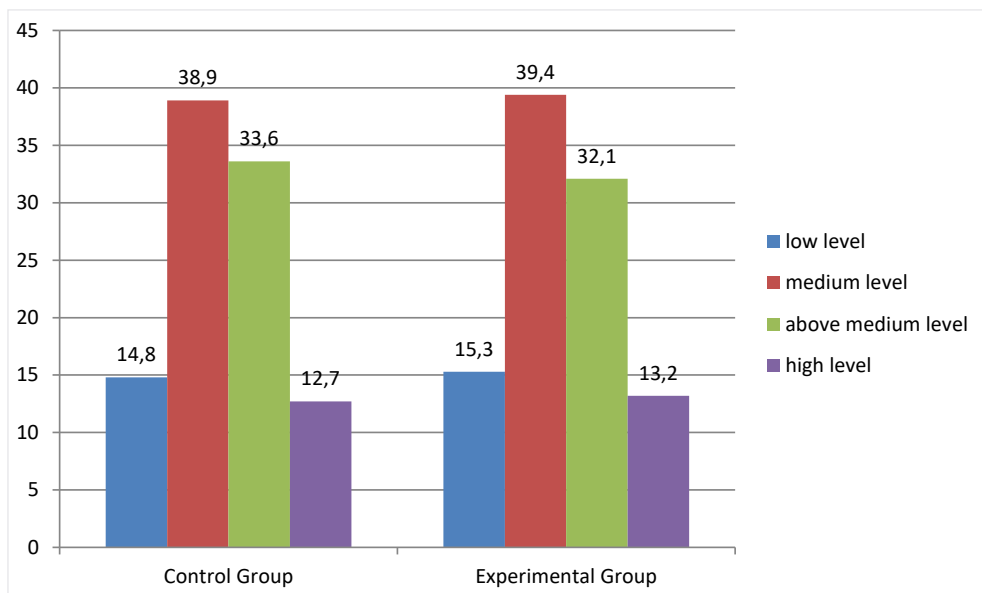


Fig. 1. The results of formation of motivation for success in high school students of the control and experimental groups, %

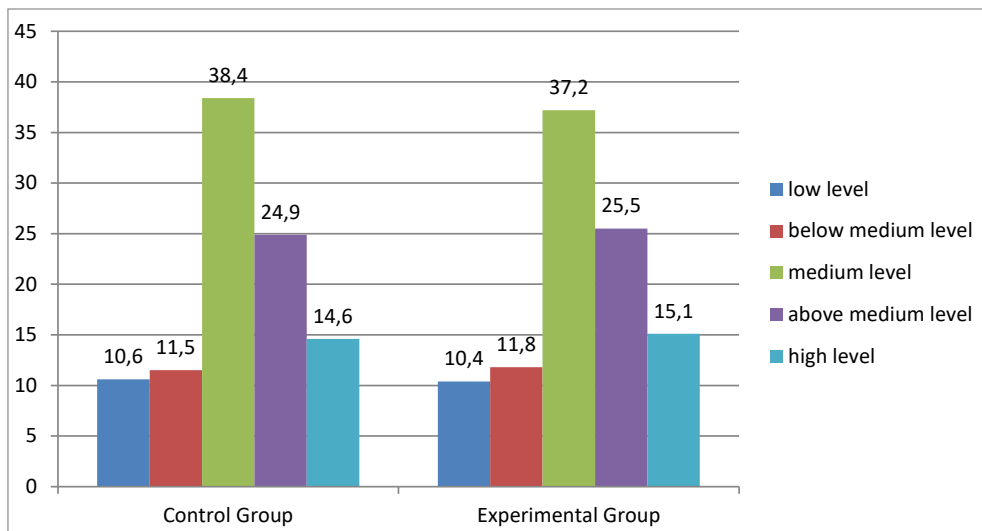


Fig. 2. The results of formation of social intelligence in high school students of control and experimental groups, %

As you can see, 10.6% of high school students in the control group showed the low level of social intelligence, 11.5% – below medium, 38.4% – medium, 24.9% – above medium and 14.6% – high. High school students in the experimental group showed

almost identical results: 10.4% had a low level of social intelligence, 11.8% – below medium, 37.2% – medium, 25.5% – above medium and 15.1% – high.

The *activity-behavioural component* of social competence of high school students is manifested in a careful attitude to one's rights and responsibilities; in participation in activities of socially significant nature; in the acquired skills of effective communication in society; vision of one's future in the context of society development; in formation of civic and personal position, which is expressed in the activity of the processes of self-education and self-development for the purpose of life self-determination.

To study the formation of the activity-behavioural component of social competence of high school students the method of diagnosis of communicative social competence (CSC) has been applied. The results of formation of communicative social competence in high school students of control and experimental groups are presented in Fig. 3.

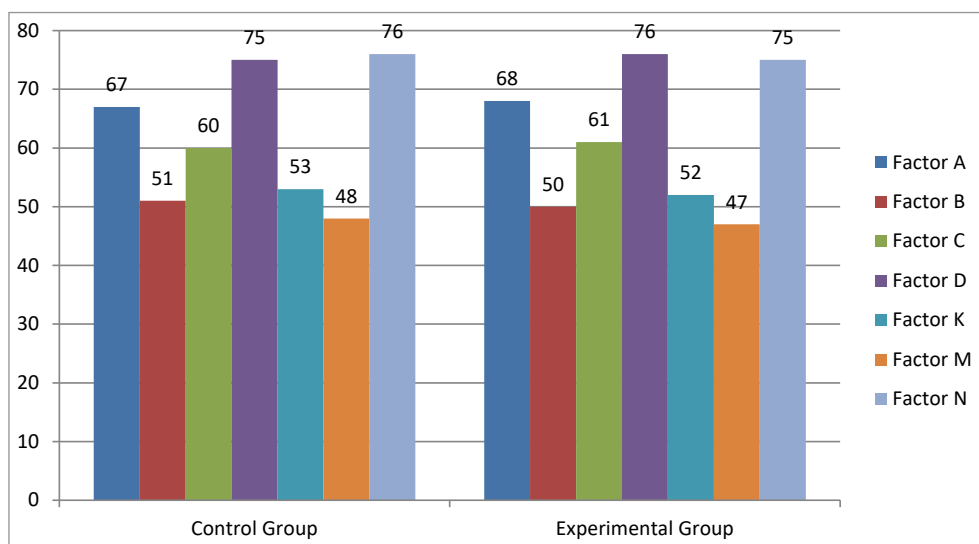


Fig. 3. The results of formation of communicative social competence of high school students in control and experimental groups, %

The level of formation of the *social-value component* was diagnosed with help of the social values inventory by M. Rokeach, which involves ranking of the list of vital values. This stage of research aimed at recording high students' individual regularity of structuring one's system of value orientations. The results of exploration of the "real self" were as follows: 79% of respondents indicated that the main purpose of life is to ensure material well-being, and 41% noted the possibility of "living carefree, having fun" as a life goal. Among the chief aspirations of high school students there is the desire to "have good health" (83%), "have fun" (71%), "be well-off" (59%). It is significant that more important value preferences about the happiness of others were chosen in comparison with the desired social demands; in particular, 35.6% of respondents saw it rewarding

to help people, 44.8% – in the satisfaction of their own work, which will be useful to society.

The collected data demonstrated a desire for self-affirmation and recognition in the survey respondents. These values remain rather significant motivating factors of educational and further professional activity. According to the results of the study, the need for vital and professional self-determination, complete self-realisation in the nearest future is also obvious. It is important that the spiritual life of modern youth includes ideals of friendship, appreciates trustworthy relationships between people

The carried out diagnostic work on assessment of student's levels of social competence development has been processed and generalised. The characteristic features of the manifestation of indicators of the key components of social competence structure in both control and experimental groups of high school students have been analysed and compared. The general information about the distribution of high school students in the experimental and control groups according to the levels of formation of social competence is presented in Table 1.

Table 1. Distribution of high school students of the experimental and control groups according to the levels of formation of social competence (preexperiment stage)

Social competence level	Control group	Experimental Group
Low	19.1	19.5
Medium	51.2	50.7
High	29.7	29.8

In order to meet the reported demand in formation of social competence in high school students by means of non-formal education, the authors of the research incorporated all the necessary socio-pedagogical conditions. The experimental stage of the presented research involved stimulation of the subjective position, providing socio-pedagogical support and monitoring, modernisation of content, forms and methods of non-formal education, organisation of amateur space and support according to the designed system of their implementation in order to form the social competence of high school students by means of non-formal education.

Generalisation of features of development of social competence in high school students in the context of non-formal education made it possible to build a kind of “matrix” of relationships between the elements of this process (Table 2).

Application of the selected forms of learning in non-formal education settings to provide the determined by the authors of the research socio-pedagogical conditions of development of social competence in high school students has been characterised on the example of the activities of general secondary education institutions engaged in the experiment.

Table 2. Matrix of development of social competence in high school students in the context of non-formal education

Socio-pedagogical condition	Forms of learning in non-formal education settings	Expected outcome
Motivational Component		
Stimulating the subjective position of high school students	Peer correction, peer assessment and self-assessment; dialogical learning, encouraging social activity in students in creative atmosphere.	Formed prosocial motives
Cognitive Component		
Providing socio-pedagogical support and monitoring	Trainings; lectures; diagnostics; scientific research of students.	Developed social intelligence
Activity-Behavioural Component		
Modernization of the content, forms and methods of non-formal education	Excursions, intellectual circles, tourist and local lore circles, clubs, sections, expeditions, hikes, excursions, camps, conferences, round tables, exhibitions.	Active social behaviour
Social-valuable Component		
Organization of amateur and support space	Self-government and volunteering	Acceptance of social values

The stimulation of the subjective position of high school students in non-formal education usually involves group activities and aims at promotion of social awareness, e.g., accepting oneself as a member of society, achievement of this goal implied organisation of various interactive forms of learning: discussions, debates, a business game “Communication,” a number of trainings, devoted to social interaction issues and acquisition of algorithm of initiative (“Problems of Social Communication,” “Personal Qualities of a Member of Society,” “Growing up in Society,” “Learning to Be Active”).

Socio-pedagogical support presupposed interaction between a social pedagogue and a high school student targeted at consideration of prognostic scenarios of student’s behaviour with purpose to provide appropriate consultation and support. The optimal forms of realisation included optional classes “Debate”; a number of trainings covering cognitive topics and teaching conflict communication (“Learning to Understand Others,” “Motivation of Personal Growth,” “Effective Communication and Teamwork,” “Conflict and Communication,” “I am Unique”); case studies; role games; video lectures; search expeditions and student’s individual cognitive research, etc.

Modernisation of the content, forms and methods of non-formal education aimed at promotion of high school students’ sociality and found its application in different sectors of adolescent activity. Intellectual development was provided via intellectual and

informative circles (“Erudite,” “Web-design,” “Club of Gifted Students”), physical development was enhanced by means of volleyball, basketball, football, aerobics, tourist activity; creative development sector included various studios (theater, radio, dance, art “Palette,” vocal “Rainbow,” choreographic, vocal-instrumental); much attention was paid to the sector of tourism and local lore (club “World of Tourism,” patriotic development circles “Cossack Gart,” “Falcon,” “Jura,” “School of Security,” local history course “Ternopil Regional Studies”).

The organisation of the space of *amateur activities and support* aimed at acquisition by high school students a system of social values in process of student government and volunteer activities. Student self-government was realised within frames of the project “Democratic School,” its activity was reported at issues of weekly radio newsletter and on the websites of the educational institution, involved in the experiment. It contributed greatly to mastering by the experiment participants key life competencies, developed their psychological flexibility and stress resistance.

Volunteering was proved to be another rewarding social activity of schoolchildren providing them with an opportunity to try oneself in a future occupation and develop a sense of moral obligation after the completed assignment (Fedoruts, 2020 *b*, pp. 27-28).

It must be noted that implementation of these forms of realisation of non-formal education in socio-pedagogical conditions of development of social competence in high school students has been attributed with the key features, which are typical of general secondary school settings.

Thus, at the final stage of the pedagogical experiment the obtained results of diagnostic work have been analysed and compared. The dynamics of development of social competence can be interpreted, in particular according to each of its structural component – motivational, cognitive, activity-behavioural, social-valuable with help of comparative analysis of the data on social competence development obtained before and after the conducted experiment. It is obvious from the distribution of high school students by levels of social competence development that significant changes have taken place only in the focus group.

Findings of the postexperiment surveys revealed a significant positive shift in development of social competence in high school students in non-formal education settings. The reports from the involved in the experiment teachers-organizers of non-formal education and members of the expert group confirmed the increased level of social competence in participants of the focus groups as compared to the representatives from the control groups. Interpretation of the results testifies the positive dynamics of the studied quality in all the components of social competence of students (namely cognitive, motivational, socio-value and activity-behavioural) belonging to focus groups, it is reflected in comparison to the achievements of students from the control groups in Table 3.

Table 3. Distribution of high school students in the control and focus groups by levels of development of social competence before and after experiment

Level	Stage of research	Control groups (n 322)	Focus groups (n 325)
Low (1)	pre-experiment stage (diagnostic) September–October, 2017	19.1% (61 students)	19.5% (63 students)
	post-experiment stage (final survey) May–June, 2019	18.0% (58 students)	10.3% (33 students)
Medium (2)	pre-experiment stage (diagnostic) September–October, 2017	51.2% (165 students)	50.7% (165 students)
	post-experiment stage (final survey) May–June, 2019	51.6% (166 students)	49.8% (162 students)
High (3)	pre-experiment stage (diagnostic) September–October, 2017	29.7% (96 students)	29.8% (97 students)
	post-experiment stage (final survey) May–June, 2019	30.4% (98 students)	39.9% (130 students)

Quantitative analysis of the obtained experimental data has been conducted with help of nonparametric methods of mathematical statistics with application of the criterion X^2 in order to compare the distribution of students in the focus and control groups' samples according to the levels of development of social competence in high school students. The t-value for the criterion X^2 was calculated according to the formula after division of high school students into three categories in accordance with the levels of development of social competence in non-formal education settings. The formula can be presented as

$$t = \frac{1}{n_1 n_2} \sum_{j=1}^3 \frac{(n_1 Q_{2j} - n_2 Q_{1j})^2}{Q_{1j} + Q_{2j}}$$

n_1 and n_2 denote the samples of the focus and control groups respectively;

Q_{1j} denotes the number of subjects from the first sample that belong to the category j;

Q_{2j} denotes the number of subjects from the second sample that belong to the category j;

The experimentally obtained t-value was compared to the critical value from t-distribution table of X^2 with $n-1$ degree of freedom (where n identifies the sample size), taking to account the alpha level 0.05 that means 95% level of confidence.

The null hypothesis H_0 was accepted that application of non-formal education forms in the determined socio-pedagogical conditions had not affected the increase in levels of development of social competence in participants of the presented study. The results of the carried out comparative analysis with help of Student's t-test allowed to accept or reject the null hypothesis H_0 .

The probability of the results obtained at the postexperiment stage was calculated operating the quantitative data regarding the levels of development of social competence

in focus and control groups (see Table 3). Standard deviation between the indicators of focus and control groups was assessed with help of Student's t-test. Due to this method of testing hypotheses in statistics, the t-test indicators of development of social competence have been estimated. Calculation of t-value for control/focus group at the low-level equals 2.03; at the medium level – 2.38; and at the high level it is 2.08. Thus it is possible to check whether there is any statistically significant difference between the samples in other words to test the null hypothesis H_0 . The corresponding critical value from the t-distribution table is 1.980 that is lower than any of the empirically obtained t-values for the three levels of social competence formation at the postexperimental stage of research. Thus the carried out comparative analysis allowed to reject the null hypothesis H_0 .

In order to compare the increase in statistical data of the postexperiment survey on development of social competence in non-formal education learning settings in both groups the value of the mean score X_{ms} was calculated at low, medium and high levels for

every structural component with help of the formula $X_{ms} = \frac{\sum_{i=1}^3 x_i n_i}{n}$, where

x_j denotes the level of social competence formation of a student, the levels were identified as 1, 2, 3 meaning low, medium and high, respectively;

n_j identifies a number of students that expressed the respective level of social competence formation x_j ;

n presents a total number of students in a group.

The value of the mean score of the control group ($X_{ms}=2.53$) is considerably different from the value in the focus group ($X_{ms}=5.31$), it evidences in favour of the significant shift in positive dynamics in result of incorporation of the designed pedagogical conditions of non-formal education. There were observed positive changes in the *content* ($X=5.36$) and *social-value* ($X=5.32$) structural components of development of social competence in high school students in the focus groups. The highest value was demonstrated by the *motivational* component indicators ($X=5.68$) and the least one by the *activity-behavioral* ($X=4.88$).

The detailed comparative analysis of the results of the conducted pedagogical experiment required developing a descriptive scale of levels of development of social competence according to criteria that correspond to the highlighted structural components – *motivational*, *cognitive*, *activity-behavioral* and *social value* (see Table 4).

Thus, comparisons of the results of the diagnostic and postexperimental surveys indicate an encouraging dynamic of growth of social competence in high school students in the focus groups. The mean scores of the indicators of development of social competence according to the selected criteria proved increase in number of high school students in the experimental group with a high level of social competence (+15% by the motivational criterion, +12% by cognitive, +8.4% by activity-behavioural and +5% by social-value), no significant fluctuations in number of students with a medium level (it dropped in limits of 1.3–0.6%) and an obvious decrease in number of high school students who demonstrated low level (-9.8% by the motivational criterion, -8.4% by cognitive, -7.2% by activity-behavioural and -11.2% by social-value).

Table 4. Positive dynamics of social competence formation after the pedagogical experiment

Criteria and levels of development of social competence	Control group (n 322) %	Focus group (n 325) %
by the motivational criterion		
high (pro-sociality is well-developed including social motives, life goals and professional self-determination)	+1.2	+15
medium (with help of a teacher basic set of social motives, life goals are established)	+0.4	-1.3
low (prosocial motives are not formed)	-1.1	-9.8
by the cognitive criterion		
high (knowledge in social and communicative spheres, well-developed social intelligence.)	+0.8	+12
medium (insufficient knowledge in social and communicative spheres, social intelligence is developed under guidance of a teacher)	+0.5	-0.6
low (social intelligence is not developed)	-2	-8.4
by the activity-behavioural criterion		
high (active social behaviour, well-developed communicative competence)	+0.3	+8.4
medium (social activity and basic communicative skills)	+0.4	-1.1
low (passive social behaviour)	0	-7.2
by the social-value criterion		
high (well-formed value-semantic sphere, meaning of life is relevant to the social values)	+0.5	+5
medium (acceptance of social values)	+0.3	-0.6
low (ignorance of social values)	-1.3	-11.4

Discussion

The effectiveness of development of social competence in high school students in non-formal education setting, providing the determined socio-pedagogical conditions, has been estimated and proved with help of mathematical statistical methods of data processing, particularly Student's t-test and comparative analysis. The mean scores of levels of social competence formation of high school students were taken from the indicators of the four criteria corresponding to the major components of structure of social competence (motivational, cognitive, activity-behavioural, social-value).

Measuring development of social competence indicated that majority of high school students in both groups demonstrated before the experiment medium or above medium levels according to the motivational criterion (72.5% and 71.5%) and cognitive one (74.8% and 74.5%).

Assessment of the level of development according to the activity-behavioural criterion of social competence of high school students involved the method of diagnostics of

communicative social competence (CSC). It revealed positive indicators that specified chosen aspects of a research in communication, namely: high communicative competence, developed logical thinking, intelligence, emotional stability during interpersonal interaction, high self-control. However, about 30% of high school students in both groups demonstrated the opposite indicators, which determine the need for purposeful formation of communicative social competence of high school students.

The indicators of formation of the social value component of high school students' social competence are correlated to some extent with understanding of the essence and perception of universal civilisational values; hierarchy of priority values; formation of social values; awareness of the importance of a responsible attitude to life and professional self-determination. The analysis revealed that the leading values of high school students included "to get quality education," "to have an interesting job," "to set up a business" (55%), "to be financially independent." Regarding social position "to achieve a social status" (25%), "to be free, independent" (14.7%), but "help people" is considered necessary by only 15% of respondents. Analysis of the obtained results about the life goals priority in students' social value system proved that business goals, education pursuit and a satisfying occupation rank first; the second position is occupied with goals aimed at personal, mostly material success and well-being; and finally social goals of a philosophical character come third.

The findings of the research at the preexperiment stage indicated a considerable lack of social competence of the subjects. Pessimistic blurred vision of future perspectives and mediocre social nihilism of high school students in most cases were caused with intensification of crisis phenomena in the socio-economic sphere in conditions of COVID-19 epidemic and absence of a holistic system of personality formation at high school. The problem is fuelled by inconsistency of educational work with students' true needs, interests, and requests, also tendency to formalism in implementation of non-formal education that resulted in defective or incomplete social competence, which should be an integral part of a harmonious personality.

In the course of the experiment of the presented research the various forms of realisation of non-formal-education context in the substantiated socio-pedagogical conditions have been incorporated in the process of study in order to meet the need in development of social competence in high school students, manifested at the diagnostic stage of investigation.

The expected outcomes of the designed methodology, namely well-formed prosocial motives, developed social intelligence, active social behaviour and acceptance of social values were achieved with help of stimulation of the subjective position, providing socio-pedagogical support and monitoring, modernisation of content, forms and methods of non-formal education, organisation of amateur space and support according to the designed system of their implementation in order to develop social competence in high school students in non-formal education learning settings. The forms of non-formal education learning were successfully realised complementing formal education. Overall, they reflected the current requirements of society to a personality of a school graduate

with well-formed prosocial motives, developed social intelligence, active social behaviour and acceptance of major social values. Non-formal education activities in the described study were realised in individual and group work with high school students, educational and diagnostic work, pedagogical support, supervision of socio-communicative and value-reflexive activity of students.

The applied forms of realisation of non-formal education in the studied case were evolved from the determined socio-pedagogical conditions, hence the *stimulation of the subjective position* of high school students in non-formal education implied group activities targeted at promoting high school students' awareness of social competence in different spheres of life. With this purpose there have been organised circles, studios, discussion clubs.

Socio-pedagogical support was realised in the form of regular consultations of experiment participants with a social pedagogue. It provided necessary psychological support and contributed to understanding consequences of one's behaviour, taking responsibility for one's words and actions, students were encouraged to progress in their personal and professional self-definition. Even though social educators usually work with a group of students, socio-pedagogical support has always been personalised within the frames of the carried-out experiment.

The main *organisational forms* of non-formal education, applied in the described pedagogical experiment in order to develop social activity of students included sightseeing tours, educational tourism, presentations, trainings, courses, studios, master classes, creative workshops, round tables, video lectures, organisation of common activities, sections, circles, clubs, volunteer activities, amateur art groups, sports sections, dialogue groups, participation in public movements and organisations, programs (training of personal development, communicative competence, effective communication, etc.).

The organisation of the space of *amateur activities and support* was carried out in the process of student government and volunteer activities. These forms of realisation of development of social competence in non-formal education learning settings are related to social rights and responsibilities, resulting in the increased civic activity, self-awareness, life competence, well-formed value-semantic sphere (Fedoruts, 2020 *b*, pp. 27-28).

It contributed greatly to the positive outcome of the discussed pedagogical research that the participants of the experiment were given the opportunity to change their passive position of objects of educational and developmental influences into active subjects of self-knowledge, self-development and self-realisation, setting the social and value vector of this process. Due to this socio-pedagogical condition, formation and implementation of the key components of social competence in high school students resulted in acquired social knowledge, motives, values, behaviour that were transformed into a way of life.

Analysis of the data obtained from the postexperiment surveys revealed a significant positive shift in development of social competence in high school students in informal education context. In addition, teachers-organisers and experts reported the considerable improvement in knowledge, skills and qualities to indicate social competence development in the focus groups. Positive dynamics has been proved with the results obtained in

the postexperiment survey, indicating about 10% of growth of high level of competence and decrease of low level from 19.5% to 10.3% in focus groups. The highest indicators of growth were reported by the motivational and cognitive criterion the number of students with high level of competence in focus groups increased in +15% and +12%, respectively, while the number of students with low level decreased in about – 9% socialization; and finally, targeted engagement into social activity during the experiment enabled high school students to gain the crucial experience of successful interaction in the social context. . It was acquired because of participation of high school students in the micro-society of non-formal education, using the modernised content, forms and methods of non-formal education; system of social values was developed with help of organization of amateur space and support.

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