## The Role of a School Theater in the Development of Communication of Adolescents: Results of a Longitudinal Study

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> The article analyzes the influence of theatrical activities on enhancing students' offline communication skills and overall socialization. The authors present the results of a two-year theater project conducted in 2023 and 2024. This project included training in scriptwriting and acting, the production of various digital and creative products, as well as group discussions and reflection sessions. The article provides an analysis of data collected during three testing episodes. The research design incorporated Rozhkov's test for assessing the socialization levels of adolescents, the Children's Assertive Behavior Scale (CABS) adapted by Y.Z. Gilbukh, and interviews with both teachers and students. A total of 79 adolescents aged 13 to 15 participated in the project, which consisted of two experimental groups with varying levels of educational motivation and skills in independent and creative work, along with one control group. It has been empirically established that specially organized theatrical activities within the framework of Digital Theater pedagogical technology contribute to adolescents internalizing humanistic values, improving indicators such as social adaptation and social activity, and strengthening their competence in communication. The communication skills acquired during the first year of the project proved to be sustainable, as demonstrated by subsequent measurements. The article indicates that the best results were achieved by students in the experimental group who were highly engaged in independently performing all tasks as well as participating in creative and production processes. In contrast, students in the second experimental group required more support and time from adults to develop the necessary skills. In conclusion, it is essential to consider the unique characteristics of students and their groups when implementing theatrical activities.

> *Keywords:* adolescents; theatrical activity; communication skills; communicative position; socialization; adaptation.

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## Роль школьного театра в развитии коммуникации подростков: результаты лонгитюдного исследования

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> Материалы статьи посвящены анализу влияния театральной деятельности на совершенствование у школьников навыков офлайн-коммуникации и повышение уровня социализированности в целом. Авторы представили результаты организованного ими двухгодичного театрального проекта (в 2023 и 2024 гг.), который включал режиссерские и актерские тренинги, создание цифровых и творческих продуктов, групповые дискуссии и рефлексивные сессии. В ходе лонгитюдного исследования проанализированы данные трех срезов по Тесту коммуникативных умений Л. Михельсона для подростков и старшеклассников (в адаптации Ю.З. Гильбуха) и Методике изучения социализированности подростков М.И. Рожкова, а также интервью с педагогами и подростками. Выборка составила 79 подростков 13-15 лет — две экспериментальные группы с разным уровнем учебной мотивации и навыками самостоятельной и творческой работы, а также одна контрольная. Установлено, что специально организованная театральная деятельность по педагогической технологии «Мультимедиа-театр» способствует интериоризации гуманистических ценностей подростками, развитию социальной адаптированности и активности подростков, укреплению компетентностной позиции в общении. Приобретенные в ходе первого года проекта коммуникативные навыки обладали устойчивостью и сохранились к последующему измерению. Показано, что наиболее быстрых результатов достигли те учащиеся экспериментальной группы, которые были максимально включены в самостоятельное выполнение всех заданий и стремились проявить себя в творческом процессе. Учащимся из второй экспериментальной группы потребовалось больше внимания взрослых и времени для приобретения соответствующих навыков. Делается вывод о необходимости учета особенностей школьного коллектива при реализации театральной деятельности.

> Ключевые слова: подростки; театральная деятельность; коммуникативные навыки; коммуникативная позиция; социализированность; адаптированность.

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#### Introduction

Communication with peers and building social connections as a part of it is priority activity for adolescents. At the same time, new agents of socialization, such as social networks and virtual communities, directly influence the form and content of communication, creating a priority for online interaction [6]. Today, many researchers are concerned with the situation when face-toface communication is being replaced with virtual communication in order to compensate for the lack of attention from peers as well as in attempt to expand the circle of communication. However, the overuse of online communication often results in developing by adolescents an avoidant position in offline social interactions [3; 19].

In many ways, the threat to adolescents is seen in a decrease in skills and desire to communicate, in a reduction of the time of face-to-face communication, in increase in social anxiety and competition [15]. As information technologies change communication channels, new forms of interaction appear to affect the phenomenon of friendship, quality and duration of communication [5]. In addition to the fact that new forms of communication should be studied, it is also necessary to consider their roles in changing faceto-face interpersonal interactions, which lead to emerging problems in socialization.

Though today the scientific society is in search for tools to improve the effectiveness of offline communication of adolescents [10; 11; 13:14]. In foreign practice, one of such tools is theatrical activity (school theater, drama in education, etc.), that not only helps to satisfy the age-related needs of adolescents and socialize them effectively, but also improves the pedagogical process itself by bringing the class community together, developing the value of friendship and healthy emotional attachment, improving the psychological climate in classes, resolving conflicts both with peers and adults [12; 16; 17; 18].

The Russian analogue in the field of drama pedagogy is the activity technology "Digital Theater". This pedagogical technology is aimed at resolving age-related problems and complex development of adolescents, including the development of meta-subject competencies and communication skills as a part of them [9]. The focus of the drama projects within "Digital Theater" keeps on the process of preparing a performance — master classes on acting, communicating and playwriting, trainings on articulation, oratory, imagination and free improvisation.

The set of measures described and the fulfillment of specially designed tasks help teachers work with the Zone of Proximal Development (ZPD) of adolescents. Such tasks and exercises for students are based on research and productive activities, they are also aimed at collecting information and data for further script writing as well as creating material and non-material products for the theatre performance. Activities, including theatrical ones, are modeled in such a way as to provide the emergence of "microdramas" in adolescents or specific emotional experiences ("perezhivanie" in L. Vygotsky terms) that are based on the material analyzed or played. Such activities help to experiment with certain roles and psychological objects, try safely new activities, get into the role/character and gain new experience [9]. Staging the play is also an inevitable part of the work. It is a must to include into the play some digital products, created by students (animation, videos, digital stories, etc.). While working on a performance, teachers are considered to pay attention not so much to its artistic value or to revealing the acting potential of students, but to the creation of a favorable environment and equal opportunities for all the participants, trying to involve the maximum number of students into the process, and to lessen competition and rivalry [8].

In order to examine the effectiveness of the application of this technology to the work with adolescents a theatrical project was carried out for two years. The project was headed by O.V. Rubtsova and took place in School No. 4, Kashira town, Moscow Region. The article presents an analysis of the influence of theatrical activities on improving schoolers' communication skills, developing their pro-social positions and increasing the level of socialization in general.

#### Organization and research methods

The study involved 79 teenagers, within them 42 girls and 37 boys aged 13—14 years in 2023 (these adolescents became 14—15 years old in 2024). After the interviews with school teachers, three classes were selected for the project. They had following characteristics:

**Experimental group 1** (EG1) (N=27, 15 girls and 12 boys): intergroup disunity, most students

had low learning motivation, difficulties in learning material acquisition, lack of independent research skills, problems in solving new tasks. They also had an earlier formed habit to redo tasks in order to improve grades and academic performance. In addition, the group included several adolescents with mental disabilities.

**Experimental group 2** (EG2) (N=31, 15 girls and 16 boys): adolescents presented rather close-knit team, who seemed to show respect towards classmates and teachers. Also, most of the teenagers had high motivation for learning and social activities, they were ready and able to work on tasks independently.

**Control group** (CG) (N=21, 12 girls and 9 boys): the majority of students had high learning motivation with a focus on satisfaction of their personal interests. They had an average level of intergroup cohesion, a lack of interest in so-cial activities in both school and after school life, they demonstrated an average level of independent work skills.

The methods used in the study:

L. Mikhelson's test of communication skills for teenagers and high school students (adapted by Yu.Z. Gilbukh) [4]. The test contains 27 communicative situations, a respondent has to choose 1 out of 5 responses to each situation which he/she considers the most adequate. The test determines three positions in communication — dependent (concessions, neglect of one's interests), aggressive (verbal attacks, forcing the interlocutor to defend himself or experience negative emotions) and competent (establishing sustainable and effective communication to one's own benefit). The predominant number of answers in one of three categories determines the respondent's communication style.

The method for studying the level of adolescents' socialization developed by M.I. Rozhkova [7]. The test was designed to identify the level of development of such indicators as social adaptation, moral education (commitment to humanistic standards of life), activity and autonomy. It contains 20 statements that should be assessed from 0 to 4. Then the sum of points for each subscale should be divided by 5. The indicator is considered to be low if the number is up to 2 points, average if it is from 2 to 3 points, or high if its more than 3.

The theater project was implemented in two stages. The first stage was from February to May, 2023. It consisted of 24 theatre sessions mainly with each experimental group separately. The main task was to motivate teenagers to work within their groups, build connections, make them "see" each other and realize the importance of each member of the team, develop a willingness to cooperate and teach them to work in a team. Drama classes included trainings on acting and script writing, creating cartoons, writing essays, intellectual/quiz games, tasks to develop stage interaction, improvisation, imagination, emotional intelligence and reflection skills. A. Chekhov's short stories were chosen to work on during theatre sessions and to stage. Those stories touched upon issues of professional duties, ethics and moral choice, friendship, dignity and philanthropy. The performance was presented in the form of a talk show that became a framework for combining literary material of different styles and transforming it into sketches.

The second stage took place from January to May, 2024. It also included 24 theatre sessions but this time all the adolescents from EG1 and EG2 took part in them together. The drama classes focused on the ways how to resolve conflicts and develop conflict-free behavior strategies (analysis of clashes of motives and interests. causes of emotional tension, development of various ways of responding in conflict situations and skills to overcome stress). Theater sessions included trainings in acting, journalism, video creation, interviewing, tasks aimed at developing self-discipline, self-organization, improvisation, imagination, reflection, communication with adults and peers. The goal of this stage was not only to bring together and establish friendly relations between teenagers from EG1 and EG2, but also to strengthen adolescents' connections with families and friends, teach them to communicate with acquainted and unacquainted adults while collecting documentary material about the World War II for the script of the performance.

During the project three testing episodes were completed. The first testing had taken place in February, 2023, before the theater sessions started. The second testing was done in May, 2023, after the first performance was played to the audience. The third testing was completed after the second performance was played. In addition to psychological testing methods, the study was also based on interviews with teachers and adolescents and observation of teenagers' behaviors during the project.

The data was analyzed with the use of statistical tests of Kruskal-Wallis, Friedman, Mann-Whitney, Wilcoxon, with the method of multiple and pairwise comparisons. The normal distribution was checked with Kolmogorov-Smirnov test. Calculations were carried out with the use of the statistical software IBM SPSS Statistics 27.

# Analysis and Results of the Experimental Study

The effectiveness of the strategy to work with teenagers via theatrical activities was confirmed by the results of empirical research.

According to the results obtained on L. Mikhelson's test of communicative skills and their value interpretation, all three groups had numerically the leading indicator of a competent position in all three testings (indicators of aggressive and dependent positions had lower values). The results obtained indicate that all adolescents maintained fairly effective interpersonal communication throughout the study. However, the dynamics for each of the indicators might help to identify the effect of theatrical activities on the adolescents' communication characteristics.

In the 1st testing no significant differences were found between the three groups according to any of the analyzed subscales (the Kruskal-Wallis criterion, "dependent position"  $\alpha$ =0.348>0.05; "competent position"  $\alpha$ =0.100>0.05 and "aggressive position"  $\alpha$ =0.219>0.05, Table 1). Consequently, the levels of all three positions studied in all groups were the same.

In the 2nd and 3rd testings significant differences between the groups on all subscales were revealed. EG2 demonstrated the highest values of the indicator of a competence position in both testings compared to the other two groups with the use of the Kruskal-Wallis criterion (2nd testing  $\alpha$ =0.001≤0.001, pairwise comparisons of ranks: EG1 — 30.02, CG — 35.21, EG2 — 51.94; 3rd testing  $\alpha$ =0.016≤0.05, EG1 — 31.26, CG — 38.76, EG2 — 48.45).

Table 1

#### Comparison of values between groups EG1, EG2, CG according to L. Michelson's method in three testings (in the analysis of differences between groups there were used the Kruskal—Wallis test, the method of multiple comparisons and paired comparisons, the Mann-Whitney)

Subscale	Kruskal—Wallis statistical tests	Significance level	The significance level in the multiple comparison method, pairwise comparisons by class (with Bonferroni correction)			
The first testing						
Dependent position	2,109	0,348	-			
Competent position	4,598	0,100	-			
Aggressive position	3,033	0,219	-			
	The second testing					
Dependent position	8,272	0,059*	-			
Competent position	14,492	0,001	EG1 and CG; α=1,000>0,05 EG1 and EG2; α=0,001≤0,001 CG and EG2; α=0,029≤0,05			
Aggressive position	8,252	0,016	EG1 and CG; α=0,012≤0,05 EG1 and EG2; α=0,04≤0,05 CG and EG2; α=0,884>0,05			
The third testing						
Dependent position	11,522	0,003	EG1 and CG; α=1,000>0,05 <b>EG1 and EG2; α=0,003≤0,05</b> CG and EG2; α=0,085>0,05**			

Subscale	Kruskal—Wallis statistical tests	Significance level	The significance level in the multiple comparison method, pairwise comparisons by class (with Bonferroni correction)
Competent position	8,252	0,016	EG1 and CG; α=0,777>0,05 <b>EG1 and EG2; α=0,013≤0,05</b> CG and EG2; α=0,401>0,05
Aggressive position	4,936	0,085***	-

Notes to table 1:  $\alpha$  — significance level; «-» — there are no significant differences. The indicators with the significance level  $\alpha \leq 0.05$  are in bold.

In the same group (EG2) occurred the lowest values on the subscales of a dependent position and an aggressive position in both testings. Let's present this conclusion in more detail. So, according to the Mann-Whitney criterion, differences in the indicator of a dependent position in the 2nd testing between EG2 and CG ( $\alpha$ =0.045 $\leq$ 0.05) were revealed. In EG2, the values of this indicator are lower than in CG (mean Me = 5.9. standard deviation SD = 3.28 and in CG Me = 8.1, SD = 3.62). Based on the Kruskal-Wallis criterion, differences were found in the indicator of a dependent position in the 3rd testing ( $\alpha$ =0.003 $\leq$ 0.01), while the values in EG2 are lower than in the other two groups (ranks EG1 - 49.20, CG - 43.62, EG2 — 20.53). Further, the Kruskal-Wallis criterion showed significant differences in the indicator of an aggressive position in the 2nd testing ( =0.016≤0.05), with the lowest values for this indicator in EG2 (ranks: EG1 - 49.56, CG -39.87, EG2 — 32.31). Finally, the Mann-Whitney criterion revealed significant differences in the indicator of an aggressive position in the 3rd testing ( $\alpha$ =0.034 $\leq$ 0.05). It turned out that the values in EG2 are lower than in EG1 (Me=5.3, SD=3.46 and in EG1 Me=7.3. SD=3.73).

The differences between EG1 and EG2 were especially pronounced. So, in EG1 the indicator of an aggressive position is higher than in EG2 whereas in EG2 the indicator of a competent position is higher than in EG1. It is worth noting that no significant changes were found between EG1 and CG in the 2nd and 3rd testings.

During the experiment, in CG there were fixed an increase in the indicator of an aggressive position and a decrease in the indicator of a competent position in the 2nd and 3rd testings in relation to the 1st testing. Based on the Wilcoxon criterion, a significant increase in indicators was revealed from the 1st to the 2nd testings  $\alpha$ =0.004 $\leq$ 0.01 and from the 1st to the 3rd test-

ings  $\alpha$ =0.007≤0.01 (the number of "-" (negative) ranks is 2, "+" (positive) ranks is 13 and "-" ranks is 6 and "+" ranks is 14, respectively). On the scale of competent position, the Wilcoxon criterion showed a significant decrease from the 1st to the 2nd testings ( $\alpha$ =0.031≤0.05, "-" ranks 12 and "+" 5) and from the 1st to the 3rd testings ( $\alpha$ =0.033≤0.05, "-" ranks 13 and "+" 7).

The intra-group dynamics of the indicators of an aggressive and a competent positions in EG1 is similar to the situation in CG - there is an increase in the value of the indicator of an aggressive position and a decrease in the value of the indicator of a competent position (but in EG1, a decrease in a competent position was found only between the 1st and 3rd testings). In the data analysis, the Wilcoxon criterion was applied, which revealed a significant increase in the indicator of an aggressive position from the 1st to the 2nd testings  $\alpha$ =0.009 $\leq$ 0.01 and from the 1st to the 3rd testings  $\alpha$ =0.040 $\leq$ 0.05 (ranks: "-" 7 and "+" 16, "-"9 and "+" 15, respectively), as well as a decrease in the indicator of a competent position between the 1st and 3rd testings (α=0.029≤0.05, "-" 16 and "+" 8).

There were no significant differences found within EG2 for all the methods used.

It should be noted that in all the studied groups there were no significant differences between the 2nd and 3rd testings, and, also, there was no intra-group dynamics of the indicator of a dependent position.

Thus, participation in the theater project did not affect the intra-group dynamics in EG2, but, in comparison to CG and EG1, in EG2 in the 2nd and 3rd testings, the indicator of a competent position is higher whereas the indicators of a dependent and aggressive positions are lower. As for EG1, the situation is opposite — no significant differences were found in the 2nd and 3rd testings in comparison to CG, while within

Table 2

#### Dynamics of intra-group indicators for the first, second and third testings in EG1, EG2, KG according to the L. Michelson's method (Friedman's criterion, the method of multiple comparisons and paired comparisons, the Wilcoxon criterion were applied)

Subscales	The significance level of the Friedman criterion	The significance level in the method of multiple comparisons, paired comparisons by groups (with Boriferroni correction)	The significance level of the Wilcoxon criterion. An additional analysis to the Friedman criterion was carried out.	The trend of shifts (negative and positive ranks are compared)	
		EG1			
Dependent position	0,413	-	-	-	
Competent position	0,180	-	1 <sup>st</sup> and 2 <sup>nd</sup> testings;	- entrance > output -	
Aggressive position	0,181	-	1 <sup>st</sup> and 2 <sup>nd</sup> testings; α=0,009≤0,01 1 <sup>st</sup> and 3 <sup>rd</sup> testings; α= 0,040≤0,05 2 и 3 срезы; α=0,892>0,05	entrance < output entrance < output -	
		CG			
Dependent position	0,912	-	-	-	
Competent position	0,152	-	1 <sup>st</sup> and 2 <sup>nd</sup> testings; α=0,031≤0,05 1 <sup>st</sup> and 3 <sup>rd</sup> testings; α=0,033≤0,05 2 <sup>nd</sup> and 3 <sup>rd</sup> testings; α=0,895>0,05	entrance > output entrance > output -	
Aggressive position	0,024	1 <sup>st</sup> and 2 <sup>nd</sup> testings; α=0.092>0.05 1 <sup>st</sup> and 3 <sup>rd</sup> testings; α=0.076>0.05 2 <sup>nd</sup> and 3 <sup>rd</sup> testings; α=1.000>0.05	1 <sup>st</sup> and 2 <sup>nd</sup> testings; <i>α</i> =0,004≤0,01 1 <sup>st</sup> and 3 <sup>rd</sup> testings; <i>α</i> =0,007≤0,01 <i>-</i>	entrance < output entrance < output -	
EG2					
Dependent position	0,581	-	-	-	
Competent position	0,589	-	-	-	
Aggressive position	0,559	-	-	-	

Notes to table 2:  $\alpha$  — significance level; «-» — there are no significant differences. The indicators with the significance level  $\alpha \leq 0.05$  are in bold.

the group, the indicator of an aggressive position increased and the indicator of a competent position decreased during the project.

The score interpretation of the results of the M.I. Rozhkov's method showed a similar situa-

tion with the interpretation of the results of the L. Mikhelson's test of communicative skills. Before the project was started, in all three groups the scores of all four subscales demonstrated a medium level of the indicators of socialization with the exception of EG2 in the 1st testing, which had a low level of adherence to humanistic norms at the entrance to the project (this is reflected in the statistical analysis of the data).

The analysis of the 1st testing showed no significant differences between the groups on all scales (the Kruskal-Wallis criterion,  $\alpha$ >0.05, Table 3). But, since the value of  $\alpha$ =0.061 on the subscale of the adherence to humanistic norms (indicates the presence of a trend), an additional analysis was carried out using the Mann-Whitney criterion. It turned out that the values of this indicator of EG2 are significantly less than in CG ( $\alpha$ =0.01≤0.01, in EG2 Me =1.8, SD=0.43 and in CG Me=2.3, SD=0.61).

The analysis of intergroup differences in three groups in the 2nd and 3rd testings showed that EG2 had significantly higher values of indicators compared to CG and EG1 on all subscales, except for the indicator of autonomy (Table 3). The values of the indicator of adherence to humanistic norms in EG2 in the 2nd and 3rd testings are higher in comparison to CG and in the 2nd testing in comparison to EG1 (the Kruskal-Wallis criterion, 2nd testing  $\alpha$ =0.001≤0.001, paired comparisons of CG and EG2  $\alpha$ =0.002≤0.05, and EG1 and EG2  $\alpha$ =0.003≤0.05, ranks: EG1 — 32.70, CG — 30.81, EG2 — 52.58; 3rd testing  $\alpha$ =0.022≤0.05, paired comparisons of CG and EG2  $\alpha$ =0.025≤0.05, ranks: EG1 — 37.09, CG —

Table 3

Comparison of the values of the indicators between groups EG1, EG2, CG according to the M.I. Rozhkov's method in three testings (in the analysis of differences between groups, the Kruskal—Wallis criterion, the method of multiple and paired comparisons, the Mann-Whitney criterion were used)

Subscale	Kruskal—Wallis statistical tests	Significance level	The significance level in the method of multiple comparisons, paired comparisons by groups (with Bonferroni correction)		
	The first te	esting			
Social adaptation	0,713	0,700	-		
Autonomy	2,671	0,263	-		
Social activity	2,520	0,284	-		
Adherence to humanistic norms	5,604	0,061*	-		
The second testing					
Social adaptation	10,478	0,005	EG1 and CG; α=0,267>0,05 EG1 and EG2; α=0,337>0,05 CG and EG2; α=0,004≤0,01		
Autonomy	4,760	0,093**	-		
Social activity	4,897	0,086***	-		
Adherence to humanistic norms	15,525	<0,001	EG1 and CG; α=1,000>0,05 <b>EG1 and EG2; α=0,003≤0,01</b> CG and EG2; α=0,002≤0,01		
	The third te	esting			
Social adaptation	2,511	0,285	-		
Autonomy	0,991	0,609	-		
Social activity	1,869	0,393			
Adherence to humanistic norms	7,650	0,022	EG1 and CG; α=1,000>0,05 EG1 and EG2; α=0,180>0,05 CG and EG2; α=0,025≤0,05		

Notes to table 3: α — significance level; «-» — there are no significant differences. The indicators with the significance level α≤0.05 are in bold.

31.36, EG2 — 48.39). Further, in EG2, the indicator of social adaptation in the 2nd testing is significantly higher compared to CG (the Kruskal-Wallis criterion,  $\alpha$ =0.005≤0.01, paired comparisons of CG and EG2  $\alpha$ =0.004≤0.01, ranks: EG1 — 39.26, CG — 27.85, EG2 — 48.81). The analysis with the use of the Mann-Whitney criterion revealed that in EG2 the values of the indicator of social activity in the 2nd testing are significantly higher than in EG1 ( $\alpha$ =0.038≤0.05, in EG2 Me=2.8, SD=0.60 and in EG1 Me=2.4, SD=0.67).

Thus, the participation of the adolescents from EG1 in the theater project contributed to an increase in the indicator of social activity by the end of the study, but there were no significant differences in comparison to CG found. In EG2, intra-group dynamics is visible on all scales and significantly higher indicators compared to CG on all scales, except for the indicator of autonomy. During participation in the theater project there were significant changes fixed in EG2 in the 2nd and 3rd testings in relation to the 1st testing: on all subscales there are significant increases in indicators (Friedman's criterion  $\alpha \le 0.001$  on the subscale of social activity (paired comparisons: 1st testing— 1.45, 2nd testing— 2.32, 3rd testing— 2.23) and on the subscale of adherence to humanistic norms (1st testing— 1.31, 2nd testing— 2.40, 3rd testing— 2.39); in the analysis of indicators of social adaptation and autonomy the Wilcoxon criterion was used, the 1st and 3rd testings on both scales  $\alpha \le 0.05$ , according to the indicator of social adaptation, also between the 1st and 2nd testings  $\alpha = 0.017 \le 0.05$ , Table 4).

The other experimental group (EG1), along with CG, was able to keep the initial indicators same for the most part during the study. A significant increase in EG1 was achieved only in the

Table 4

#### Dynamics of intra-group indicators in the first, second and third testings in EG1, EG2 and CG according to the M.I. Rozhkov's method (Friedman's criterion, the method of multiple and paired comparisons, the Wilcoxon criterion were applied)

Subscales	The significance level of the Friedman criterion	The significance level in the method of multiple comparisons, paired comparisons by groups (with Bonferroni correction)	The significance level of the Wilcoxon criterion. An additional analysis to the Friedman criterion was carried out.	The trend of shifts (negative and positive ranks are compared)	
	The si leve Friedma	The si leve me comp by grc Bor corr	The si leve Wi Crite analy Friedm was c	The tre (neg; positiv con	
		EG1			
Social adaptation	0,075	-	-	-	
Autonomy	0,932	-	-	-	
Social activity	0,017	1 <sup>st</sup> and 2 <sup>nd</sup> testings; $\alpha$ =0,403>0,05 1 <sup>st</sup> and 3 <sup>rd</sup> testings $\alpha$ = 0,016≤0,05 2 <sup>nd</sup> and 3 <sup>rd</sup> testings; $\alpha$ =0,588>0,05	-	-	
Adherence to humanistic norms	0,358	-	-	-	
CG					
Social adaptation	0,276	-	-	-	
Autonomy	0,030	1 <sup>st</sup> and 2nd testings; α=0,041≤0,05 1 <sup>st</sup> and 3 <sup>rd</sup> testings; α=0,161>0,05 2 <sup>nd</sup> and 3 <sup>rd</sup> testings; α=1,000>0,05	-	-	

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Subscales	The significance level of the Friedman criterion	The significance level in the method of multiple comparisons, paired comparisons by groups (with Bonferroni correction)	The significance level of the Wilcoxon criterion. An additional analysis to the Friedman criterion was carried out.	The trend of shifts (negative and positive ranks are compared)
Social activity	0,078	-	-	-
Adherence to humanistic norms	0,549	-	-	-
		EG2		
Social adaptation	0,158	-	1 <sup>st</sup> and 2 <sup>nd</sup> testings; $\alpha$ =0,017≤0,05 1 <sup>st</sup> and 3 <sup>rd</sup> testings; $\alpha$ =0,025≤0,05 2st and 3 <sup>rd</sup> testings; $\alpha$ = 0,102>0,05	entrance < output entrance < output -
Autonomy	0,103	-	1 <sup>st</sup> and 2 <sup>nd</sup> testings; α=0,059>0,05 1 <sup>st</sup> and 3 <sup>rd</sup> testings; α=0,046≤0,05 2 <sup>nd</sup> μ 3 <sup>rd</sup> testings; α=0,536>0,05	- entrance < output -
Social activity	<0,001	1 <sup>st</sup> and 2 <sup>nd</sup> testings; $\alpha$ <0,002 $\leq$ 0,01 1 <sup>st</sup> and 3 <sup>rd</sup> testings; $\alpha$ <0,007 $\leq$ 0,01 2 <sup>nd</sup> and 3 <sup>rd</sup> testings; $\alpha$ =1,000>0,05	-	-
Adherence to humanistic norms	<0,001	1 <sup>st</sup> and 2 <sup>nd</sup> testings; $\alpha$ <0,001 1 <sup>st</sup> and 3 <sup>rd</sup> testings; $\alpha$ <0,001 2 <sup>nd</sup> and 3 <sup>rd</sup> testings; $\alpha$ =1,000>0,05	-	-

Notes to table 4:  $\alpha$  — significance level; «-» — there are no significant differences. The indicators with the significance level  $\alpha \leq 0.05$  are in bold.

3rd testing on the scale of social activity (Friedman criterion,  $\alpha$ =0.017≤0.05, method of multiple and paired comparisons: between the 1st and 3rd testings  $\alpha$ =0.016≤0.05, ranks: 1st testing — 1.60, 2nd testing — 2.02, 3rd testing — 2.37).

In CG an increase in the indicator of autonomy is found in the 2nd testing (Friedman's criterion,  $\alpha$ =0.030<0.05, the method of multiple comparisons using paired comparisons: 1st testing — 1.35, 2nd testing — 2.31, 3rd testing — 2.14).

There were no significant differences between the 2nd and 3rd testings in all groups. Using the example of EG2, this can be interpreted as resistance to external influences during the year. The adolescents from EG2 managed to retain the communication skills acquired during participation in the theater project till the end of it.

Even though both experimental groups had the same positions at the beginning of the study, their results differed significantly at the end. To understand such differences, the test results were supplemented with an analysis of interviews with teachers, class supervisors and adolescents from EG1 and EG2 in order to indicate meaningful characteristics in the behavior of the children. The following influencing factors were identified:

 readiness to do a creative activity. EG2 had already had a variety of experience in creative work before participating in the theatrical project, for example, from time to time the adolescents of EG2 would take part in the literary performances. Also, during the theatre classes, adolescents of this group, unlike EG1, demonstrated more developed skills in semantic reading, reading aloud and analyzing what they had just read. Most schoolers from EG2 tend to complete their homework (for example, writing a review on their visit to Chekhov's estate Melikhovo, searching and selecting documentary material on the particular topic, rewriting the events of the short story in the form of a newspaper news report or a poetic fable). On the contrary, EG1 avoided doing these tasks.

 readiness to work independently and selfregulation. EG2 carried out the research tasks with great interest, contacted different people and organizations if necessary. For example, adolescents from this group wrote a letter of inquiry to the local historic museum and created a questionnaire for interviews. Adolescents from EG2 had already largely developed motivation to solve complex tasks and the readiness to try a new activity, while teenagers from EG1 had the fear of not completing a new task: they were constantly looking forward to receiving clear guidance and help from adults, which, ultimately, can be considered as a weak initiative. In practice, these differences between the two experimental groups led to the division of functions: EG1 took responsibility for technical support for the process of creating and presenting performance (editing videos, drawing posters, sound engineering and camera work), while EG2 completed both scripts for performances for two years.

Thus, despite the fact that according to the first testing in terms of the indicators of communication and socialization, adolescents from all three groups were in equal positions. The key role in taking opportunities in theatrical activities played previous experience of participation in school life, the development of particular skills (for example, reading skills and self-organization skills), as well as readiness to take up new challenges in learning.

For EG2, the activity-based technology "Digital theater" became a platform they used to develop and reinforce their social and communication skills, while teenagers from EG1 were just trying themselves in new roles and activities, relying on the support of adults and the help of more experienced peers from EG2. Thus, schoolers from EG1

concentrated on technical skills and game aspects rather than on creative and productive ones.

It is important to note that in the interviews teenagers from both experimental classes outlined qualitative improvements in communication, boosting a number of social contacts both with the classmates and with peers from other classes: "We have already had a friendly class, but we began to communicate more with others" (student D., EG2), "We became more united, we started to support each other" (girl Er., EG2), "A vivid memory is that how we got together, spent time together, it was very nice to see everyone together" (girl Ver, EG2).

Interestingly, many teenagers from both groups emphasized the growth of productivity of work in teams and the establishment of strong interpersonal relationships precisely in the first year of the study. Also, in interviews, teenagers tended not to notice changes in communication in the second year of the project. For example, the student of EG2 Mac. said: "... this year [the second stage of the study], we were all friends... oh, yes, thanks to the last year, we began to be friends in both classes." The statements of the students from EG2 also confirm the strengthening of a competent position in communication both in his group and in comparison to EG1 and CG.

It is worth to mention that the teachers' observations of the students from EG1 coincide with the opinion of the students from EG2 about the improvement in communication and the establishment of friendly relations, which was not confirmed during the statistical analysis of the test results. Thus, the teacher of Russian and Literature, who worked in EG1, paid attention not only to the general atmosphere in the classroom, but also to the improvements in students' communication with adults: "... The psychological climate in the classroom has changed, the children began to communicate quite calmly with each other... now they communicate more warmly, the awareness occurred in their relationships. The schoolers now try to find ways to resolve conflicts... The theatre project contributed to the friendship among both classmates and teenagers from other classes. Communication with adults changed too, it became politer and more moderate. Adolescents began to cope with emotions - they began to reflect before express their opinions to adults ... ".

The schoolteachers also expressed the opinion that possibly the increase in the indicator of an aggressive position in EG1 and CG was because of the superimposed stress due to the end of the school year (the 2nd and 3rd testings were conducted in May of 2023 and 2024 years, respectively).

#### Conclusion

The data obtained in the study allows to identify the possibilities of theatrical activities for practical application in school education. The main conclusion of the study is that specially organized work with adolescents contributes to the internalization of humanistic values, which means their acceptance on the basis of free choice with following reproduction/reflection in behavior while communicating.

Students from EG2 demonstrated high involvement into the project: they participated in all events and completed creative tasks, many of which were designed for teamwork or better comprehension of the material they worked on. As a result, their "competent position" increased compared to the CG at the end of the experiment and intra-group indicators of social adaptability, social activity, adherence to humanistic norms increased significantly.

The students from EG1 mostly showed interest in the technical support of the process of creating a theatrical performance, also they more often needed support from adults as well as they took more time to acquire new skills. Nevertheless, quantitative data revealed an increase in the indicator of social activity within the group in the 3rd testing. A qualitative analysis of interviews with teachers and adolescents showed an improvement in the psychological climate, the emergence of constructive practices of social interactions between each other. However, the indicator of an aggressive position increased when

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#### the indicator of a competent position decreased.

Contemporary research shows that aggression in communication can play a positive role in the process of growing up — aggression can be an "activator for self-affirmation", a way to assert oneself, defend one's opinion, compete and provoke interaction among others, or, conversely, to protect oneself from peers, to rebuild one's attitude by taking a different place in the hierarchy in the group [1; 2]. In the future, additional research is required to investigate the role of an aggressive position in adolescence in its connection with a theatrical activity.

In the CG, intra-group changes are also noted - a decrease in values of the indicator of a competent position and an increase in values of the indicator of an aggressive position. Perhaps negative changes in the CG occurred due to stress associated with the end of the academic year, since the 2nd and 3rd testings were carried out in May 2023 and 2024, respectively (which in Russia is the most tough time for schoolers as it is period of assessments, grading and rating). On the other hand, without influence of theatrical activities adolescents of the control group did not change their position in relation to other classes (did not make friendly relations, new social contacts), also they stayed detached from the social school life and concentrated on their individual achievements. which is confirmed by the increase in the indicator of autonomy between the 1st and 2nd testings.

The results of the longitudinal study demonstrate the sustainability of the communication skills acquired by adolescents from both experimental groups during participation in the theater project and resistance to external influences. Comparison of the data of the 2nd and 3rd testings, especially according to the results of EG2, did not reveal significant differences: the values of the indicators in the 2nd and 3rd testings are almost alike.

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