The role of collective reflection in the formation of group identity in the school environment

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ABSTRACT

The formation of the school community group identity is ensured by the ability of each member to collectively analyze their activities and their consequences. "My class", methods of determining the state of formation of the active self-concepts, and fundamental interpersonal relations questionnaire (FIRO) were used in the study. Descriptive analysis, variance analysis, and correlation analysis were used for statistical processing of the results. The sample is randomly randomized and consists of 230 people, which ensures its representativeness. Of them, 130 are girls and 100 are boys. The results of the study showed that elementary school students have high levels of both personal and collective reflection, as well as high levels of group cohesion. There were no statistically significant gender differences in scores on collective reflection and group identity. The findings of this study provide the basis for creating effective tools for the development of primary school students' collectives, which will allow directing collective activity towards targeted educational and training goals. In the future, it is worth studying the dynamics of the development of collective reflection, which affects group identity, in critical periods of school education: primary school, secondary school, and senior school.

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1. INTRODUCTION

Identification acts as the most important mechanism for familiarizing oneself with social reality, ensuring the adaptation of the individual to the surrounding world [1]. If an individual perceives their group identity positively, they are more likely to communicate well with other members of the group and experience positive emotions [2]. Even before the age of five, children are capable of subjectively identifying themselves with a collective [3]. At the same time, group identity is the identification with a certain group and the adoption of the values, norms rules, and customs of this group [4]. Group identity is of particular importance in the school environment, especially in primary school [5]. It is during this time that the child enters a new space, represented by several different spheres: educational, communicative, and socio-behavioral [6]. Younger

school children form relationships with teachers and peers, expand their circle of interests and hobbies, build a fundamentally new behavioral strategy, and learn new rules and norms. In the conditions of war in Ukraine, primary school children are the most vulnerable category of persons and, accordingly, need the highest degree of protection [7]. Therefore, it is necessary to pay special attention to the adaptation of such children to the school environment and their full integration into the educational space.

In the process of integration into the school environment and the formation of group identity, collective reflection plays a significant role [8]. Reflection is considered from the standpoint of the activity-oriented approach to development, which allows individuals to evaluate their work, control its process, and adjust the results [9]. This ensures the effective completion of tasks, the desire to improve skills and abilities, and the expansion of knowledge and worldview [10]. Collective reflection in this case acts as a means of accepting and comprehending the moral norms of the group, it expresses a sense of group unity, in which each member of the collective feels integral [11].

Collective reflection promotes reflective thinking through the completion of shared tasks, allowing students to analyze their work and reason its consequences [12]. Collective reflection allows elementary school students to self-analyze and self-evaluate their activities and their relationships with peers and teachers [13]. Thanks to collective reflection during learning, the actions of the group are correlated with their actions and reactions, which ensures identification with the group [14]. Self-reflection of teachers contributes to the development of collective reflection. This makes it possible to develop students' ability to self-identify, self-evaluate, and self-regulate [15].

In this study, we investigated the impact of collective reflection on the formation of group identity in a school environment. Although previous studies partially studied the manifestations of collective reflection [11] and paid attention to collective cohesion [10], self-identification with group members [4], they did not consider such an effect on younger schoolchildren. This age is a key stage in the development of group identity; therefore, the study of this issue is relevant in the field of science and practice.

The purpose of the study is to identify the impact of collective reflection on group identity in the school environment. Based on the purpose, the hypothesis is put forward: personal and collective reflection has a positive impact on the group identity of primary school students. In accordance with the objective and hypothesis, the following research tasks are set: i) to diagnose the components of personal reflection of primary school students; ii) to identify the formation of the components of collective reflection of primary school students; iii) to investigate the group identity of primary school students; and iv) to identify the relationship between the components of collective reflection and group identity in the primary school collective.

2.   LITERARY REVIEW

Identification is a psychological mechanism of association that involves the establishment of an emotional connection between an individual and other people or groups [16]. By identifying with others, the personality determines its belonging to a certain class, group, or society and defines its place within it [17]. Thus, the identity of the personality is formed, which encourages the adoption of behavioural norms, types of thinking, and worldview positions in accordance with the object with which it identifies itself [18]. Group identification occupies a special place in the system of individual adaptation in the school environment. School is a new place of socialization for a child, so when a child enters school, they become part of a collective that has a common goal and type of activity [19]. The formation of identity in the educational environment is especially active in crisis periods: primary school (adaptation to school and the collective), transition to middle school, and high school (formation of career guidance).

Entering school is the most stimulating factor in forming group identity. Feeling themselves as members of one group, younger students identify themselves with learning as a whole [20]. This contributes to the formation of a unified system of relations capable of determining the direction of joint activity and collective priorities [21]. The cohesion of the group, and its internal structure, is a means of pedagogical influence on the formation of clear learning positions, positive relationships among students, and their self-esteem [22]. Group identity in childhood is formed based on social hierarchies. This provides valuable information about how intergroup relationships influence the development of interpersonal interactions in a children's group [23]. Group identification in the school environment directly determines the well-being of students, shaping a sense of personal harmony with the group [24].

At the same time, in the process of forming group identity, individuals evaluate their position within the group and reassess their relationships with other members. This collective reflection ensures a response to collective relations, where each member individually contributes to the overall integrity of collective unity [8]. If the learning process is based on interpersonal interactions grounded in reflection, it enhances group identity [25]. Continuous interaction within the group community creates a specific circle of communication, within which its normative rules of behavior are formed. Reflective feelings regarding group members and awareness

of one's place within it create a certain hierarchy of attitudes [26]. This prompts students to act not only according to their interests but also to consider the interests of the group. Reflectively sensing group needs, each student plans their activities and participation according to the collective tasks [27]. Such systematic interaction creates an environment of interpersonal communication, the influence of which can control group processes, correcting undesirable manifestations in students' behavior or deviations in group development [28].

Reflection is the ability of a subject to identify, analyze, and compare their actions with the situational context [29]. Reflection is a complex psychological phenomenon that includes activities such as comparing conditions and goals, searching for means and ways to transform information, determining the adequacy of the chosen means to achieve goals, developing a step-by-step strategy of actions, and feedback [10]. In modern pedagogy, reflection is considered a self-analysis of activities and evaluation of its results, self-knowledge, and self-awareness [30]. Children who do not acquire the ability to reflect by the end of primary school have difficulties both in academic activities and in interpersonal relationships [31]. Reflective thinking, one of the skills of higher-level thinking, allows students to learn more easily and continuously [29]. By thinking reflectively, students can plan, giving them an advantage over others in achieving results. The higher the ability to reflect, the broader the student's circle of communication [9].

The purpose of reflection is to understand activity goals and the process of their implementation (methods, problem-solving), to compare the achieved results with the planned ones, and to adjust the activity according to future goals [27]. The mechanism of reflection development lies in personal self-awareness but is also a means of pedagogical influence [9]. It follows that the sum of each individual's reflection creates a collective reflection [32]. This is especially evident in a school community, where the teacher manages the collective reflection of the class to improve the productivity of educational activities and optimize student relationships [33].

3. METHOD

3.1. Research procedure

A descriptive prospective study was conducted. The study lasted for four months and took place from January 2024 to April 2024. The first stage involved a theoretical and methodological analysis of the research problem, as well as the selection of diagnostic methods. The second stage involved conducting diagnostics of primary school students and processing the primary results. The third stage involved statistical and qualitative analysis of the obtained results. The fourth stage included the justification of conclusions and the prospects of the research.

3.2. Sample formation

The study included 230 students from 3rd and 4th grades aged 9-10 years. Among them were 130 girls and 100 boys. The sample was formed based on school №132 in Kyiv (38 students from three classes and 84 students from four classes) and general education school №42 in Chernivtsi (35 students from three classes and 73 students from four classes). The inclusion criterion was students' attendance at primary school, as this is the first stage of forming group identity in a school environment. Students from the 3rd and 4th grades were selected because students in the 1st and 2nd grades may have additional adaptation factors that could distort the research results. The exclusion criterion was students' attendance at 1st and 2nd grades, as well as specific personal development characteristics that could affect group reflection and learning ability.

3.3. Methods

The study of group identity was conducted using the "my class" methodology developed [34]. The methodology consists of 15 questions divided into five blocks. The methodology includes three scales: satisfaction with school life, classroom conflict, and class cohesion.

For the diagnosis of reflection, the methods of determining the state of formation of the active self-concepts (O. Taran) were used. The methodology is aimed at determining the active self-concept of a child through direct questioning. The methodology includes 31 questions that form three blocks: cognitive (the child's knowledge of their social, physical, and mental "self"), emotional-evaluative (the child's self-assessment), and behavioral (the development of self-regulation and the child's behavioral sphere).

The interpersonal relationships questionnaire is a Ukrainian version of the widely known fundamental interpersonal relations questionnaire (FIRO) developed by American psychologist W. Schutz. The test is aimed at diagnosing various aspects of interpersonal group relations. The questionnaire includes 54 questions and six answer options. The questionnaire contains the following scales: inclusion (I), control (C), and affection (A). Each scale has two poles: the actual assessment of the individual's behavior (E) and the expected behavior from others (W).

3.4. Statistical methods

Descriptive analysis was used for statistical analysis, which was used to determine average values for tests and standard deviations. One-way analysis of variance (ANOVA) was also used to compare the results by gender, and correlation analysis was used to identify the correlation coefficients between the variables. Calculations were performed using Excel 2013 and SPSS 22.0.

3.5. Ethical criteria

The study is non-interventional and therefore does not require ethics committee approval. Nevertheless, the study followed the principles of the Declaration of Helsinki and ethical rules for conducting research. All respondents were informed about the purpose and tasks of the study, and informed consent for testing was obtained.

4.   RESULTS AND DISCUSSION

We discovered that primary school students have predominantly high values of personal reflection components. Cognitive, emotional-evaluative and behavioral components are high, which characterizes a rather high level of reflection in children, as in Table 1. Students show a high level of the cognitive component, which characterizes their knowledge about their personality from a physical, social, and psychological point of view. The high development of the emotional-evaluative component indicates an emotionally positive attitude towards oneself and self-assessment from a positive perspective. High scores in the behavioral component indicate clear self-regulation of behavior, and the ability to choose specific actions to achieve the set task.

Table 1. Indicators of personal reflection in primary school students (N=230)

| Indicators | Scale | | | |
	Min	Max	Mean	SD
Cognitive	3	17	14.8	3.9
Emotional and evaluative	2	6	5.2	1.2
Behavioral	2	6	5.5	1.3

High component scores indicate that students have developed a high level of autonomy in self-presentation, the ability to identify their characteristics, and an awareness of the nature of the task and ways of its execution. Such data confirm that primary school students have a developed ability for collective reflection, as they have the prerequisites for collective self-analysis of relationships in the group. We found that students have a high group identity, which includes satisfaction with school life, low conflict in the classroom, group cohesion. Primary school students have a sufficiently developed group identity, as evidenced by high scores on the relationship components with the group (class), as in Table 2.

Table 2. Group identity indicators of primary school students (N=230)

| Indicators | Scale | | | |
	Min	Max	Mean	SD
Satisfaction with school life	3	15	12.2	3.7
Conflict in the class	1	9	3.7	1.8
Class cohesion	5	15	11.8	3.3

Our analysis reveals that primary school students have a high level of satisfaction with school life, average conflict propensity, and a high level of cohesion. These results indicate that the group identity of the class members is high. Group identity among students is the foundation of their cohesion, manifested in the process of identifying and associating with the group.

The data obtained showed that collective reflection among primary school students is also highly developed. High values of inclusion, control and affect as components of collective reflection are presented in Table 3. It has been found that students exhibit high scores on the "inclusion" scale, indicating a sense of comfort among other children and adults. These children strive for interaction, spending time together, and solving tasks. They need group acceptance and a desire to belong. High scores on the "control" scale demonstrate the desire of elementary school students to take responsibility associated with a leading role. This reflects their self-regulation and willingness to solve tasks together.

High scores on the "affect" scale indicate that students tend to establish close emotional relationships with peers, form friendly relations with them, and act collectively. They are quite sociable and strive for

positive relationships with everyone, which may not always be reciprocated. In this case, collective reflection is manifested in the desire for joint activities, mutual assistance, and collective task-solving. This creates a certain structural mechanism that contributes to interpersonal interaction among students in the group. It also has a positive effect on their academic success. In this case, collective reflection is manifested in the desire for joint activities, mutual assistance, and collective task-solving. This creates a certain structural mechanism that contributes to interpersonal interaction among students in the group. It also has a positive effect on their academic success. The results obtained allow us to state that the highest proportion of variance is explained by the cognitive aspect of students' self-reflection, satisfaction with school life, and class cohesion shown in Figure 1.

Table 3. Indicators of collective reflection in primary school students (N=230)

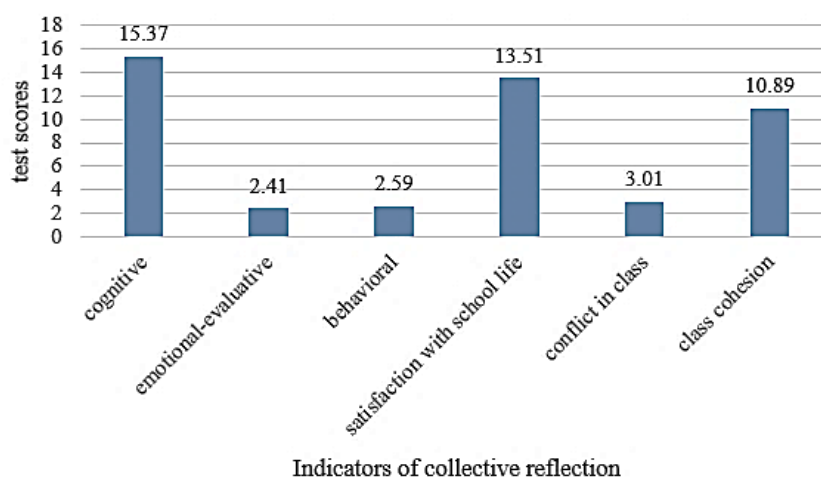| Indicators | Scale | | | |
	Min	Max	Mean	SD
Inclusion (Ie)	2	9	7.35	1.74
Inclusion (Iw)	3	9	7.18	1.59
Control (Ce)	3	9	6.45	1.72
Control (Cw)	2	9	6.38	1.79
Affect (Ae)	2	9	6.84	1.86
Affect (Aw)	3	9	7.10	1.69

Figure 1. Indicators of collective reflection in primary school students, which account for variance in group identity

These results indicate that according to the ANOVA analysis, we did not find gender differences (p≥0.05) in the indicators of collective reflection and group identity among primary school students, as in Table 4. The absence of differences between boys and girls in the indicators suggests that group identity and collective reflection are not gender-dependent. They are both individual and collective characteristics that shape cohesion and influence task performance.

Correlation analysis revealed a significant relationship between collective reflection and group identity among primary school students, as in Table 5. It has been established that satisfaction with school life positively correlates with indicators of personal reflection and collective reflection. These connections indicate that a desire for school interaction, collaborative task performance, and a high ability for self-reflection bring satisfaction with school life and the collective. Conflict in the classroom negatively correlates with indicators of personal and collective reflection. Thus, the higher the values of self-understanding, self-regulation, and the ability for collective interaction, the lower the conflict among students. Positive correlations have been found between cohesion and components of personal and collective reflection, indicating a positive influence of reflection on group cohesion. Thus, we have established that personal and collective reflection positively influences the group identity of elementary school students.

Our research suggests that elementary school students exhibit high levels of personal reflection and collective reflection. Students have high levels of group identity, indicating a willingness to be included in the group, interact with group members, and show emotional attachment. High collective reflection contributes to high group identity, group cohesion, and the self-efficacy of each group member. According to Ukumo and Berlie

[27] such a group is productive in an educational perspective and cohesive in a psychological context. At the same time Bozan [29] prove that being cohesive, group members intuitively sense each other, know how to choose the right approach to solving problems, and coordinate the execution of tasks. Therefore, such a group is effective in the school environment, as it is easily influenced by educational and developmental factors.

Table 4. Gender analysis of indicators of collective reflection and group identity among primary school students

Indicators		Scale			
		Mean	SD	F	SD
Cognitive	Male	10.59	4.09	0.486	0.487
	Female	10.95	3.78		
Emotional-evaluative	Male	4.42	1.24	1.051	0.306
	Female	4.56	1.16		
Behavioral	Male	4.73	1.22	0.005	0.942
	Female	4.69	1.31		
Satisfaction with school life	Male	10.21	3.75	0.020	0.889
	Female	10.16	3.65		
Conflict in class	Male	3.62	1.74	0.982	0.323
	Female	3.79	1.83		
Class cohesion	Male	9.72	3.38	0.176	0.675
	Female	9.88	3.27		
Inclusion (Ie)	Male	7.31	1.85	0.395	0.530
	Female	7.41	1.71		
Inclusion (Iw)	Male	7.22	1.83	0.052	0.819
	Female	7.16	1.51		
Control (Ce)	Male	6.23	1.76	3.515	0.062
	Female	6.63	1.71		
Control (Cw)	Male	6.42	1.94	0.017	0.897
	Female	6.36	1.72		
Affect (Ae)	Male	6.87	1.91	0.123	0.726
	Female	6.87	1.81		
Affect (Aw)	Male	7.11	1.83	0.122	0.727
	Female	7.06	1.60		

Table 5. Correlation analysis of the relationship between components of group identity and collective reflection among primary school students (N=230)

Research indicators	Satisfaction with school life	Satisfaction with school life	Class cohesion
Cognitive	0.705**	-0.441**	0.453**
Emotional-evaluative	0.606**	-0.134*	0.485**
Behavioral	0.543**	-0.178**	0.399**
Inclusion (Ie)	0.389**	-0.221**	0.402**
Inclusion (Iw)	0.421**	-0.546**	0.320**
Control (Ce)	0.493**	-0.386*	0.369**
Control (Cw)	0.573**	-0.455**	0.610**
Affect (Ae)	0.673**	-0.333*	0.279**
Affect (Aw)	0.434*	0.423*	0.350*

Note: ** - significance at p≤0.01, * - significance at p≤0.05

The development of reflection in elementary school students is a means of developing them as subjects of the school environment, contributing to their ability to independently carry out educational activities [29]. Our results are confirmed in the study of Zhang et al. [14], where it is shown that means of collective reflection contribute to the cohesion of children's groups, which in turn improves their absorption of educational material. The ability for collective reflection characterizes the school group as a successful social group capable of acting harmoniously under certain circumstances. Such a group effectively solves tasks and is easily managed [10]. Moreover, collective reflection has the ability to strengthen over time. Skillful pedagogical management can enhance the sense of readiness for competence and the perception of cooperation methods, and individual responsibility, and stimulate interaction [9]. At the same time, collective reflection allows group members to strengthen their relationships with each other and increase group cohesion [13].

The development of group identity in students occurs through their shared practical activities [11]. In one study, it was shown that the group identity of children is formed through collaborative task performance. Preschoolers attribute their behavioral actions to the collective decision, while elementary school children define their achievements through the result of the group's activities [6]. This proves that group identity formation occurs in elementary school, and through collective reflection, group cohesion develops. Other

results confirm our hypothesis about the mutual influence of collective reflection and group identity [24]. Statistically significant relationships have been found between group identification, life satisfaction, self-esteem, and self-regulation.

Research has shown that in elementary school, children have a relatively high level of group identity, as this is a period of active formation of interpersonal relationships in the class [4]. It has been established that group identity and group membership contribute to the overall well-being of students and allow for self-development [2]. The formation of group identity among students through pedagogical influence is more extensively presented. It has been proven that class cohesion significantly influences student interaction and motivation, which, in turn, affects their engagement and behavior [18]. A cascade of consequences begins with how teachers teach and the cohesion created in the class.

Research results indicate that changes in educational identity during school adaptation are normative, and peer relationships within the collective play a significant role in this process [15]. However, expanding on existing research, it has been found that children with behavioral problems constitute a risk group for social participation in the collective [35]. Therefore, the formation of group identity through cohesion and reflection is an effective means of developing the collective as a cohesive mechanism [8].

5.   CONCLUSION

We have found that collective reflection contributes to the development of group identity in the elementary school environment. These results are useful for educators aiming to organize targeted influence on group cohesion, group identity, and constructive interaction within student groups. In further research, it is worth paying attention to deepening the study of group identity and include self-esteem of students and their educational achievements in the diagnosis. Furthermore, understanding the development of reflection in elementary school students allows for a qualitatively new approach to the development of programs for group identity development. Expanding the set of regulatory components, developing children's self-awareness and self-esteem can be optimized through the application of a comprehensive system of influences. This will ensure successful academic activity as well as personal growth.

The limitations of the study lie in the variability of the student body and the potential error in measuring the characteristics. The collective can change (with new students arriving or previous leaving), be influenced by various factors, partially break down, and operate in a tense environment. Therefore, it may be difficult to establish group identity. The same can be said for collective reflection. Any fluctuations in the environment will affect students' ability to reflect. Therefore, in further research, it is necessary to strictly control the influence of additional factors on the studied indicators. The prospects of the study include studying the influence of group identity among elementary school students on their academic motivation, academic performance, and self-esteem. Expanding the main aspects of collective reflection can occur through the development of students' self-regulation, self-awareness, and self-control.

AUTHOR CONTRIBUTIONS STATEMENT

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C : **C**onceptualization		I : **I**nvestigation		Vi : **Vi**sualization	
M : **M**ethodology		R : **R**esources		Su : **Su**pervision	
So : **So**ftware		D : **D**ata Curation		P : **P**roject administration	
Va : **Va**lidation		O : Writing - **O**riginal Draft		Fu : **Fu**nding acquisition	
Fo : **Fo**rmal analysis		E : Writing - Review & **E**diting			

CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

INFORMED CONSENT

We have obtained informed consent from all individuals included in this study.

ETHICAL APPROVAL

The research related to animal use has been complied with all the relevant national regulations and institutional policies for the care and use of animals.

DATA AVAILABILITY

The data that support the findings of this study are available from the corresponding author, [OK], upon reasonable request.

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