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The Impact of Performance on Students' Reflective and Coping Strategies in Higher Education

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Abstract: This research aimed to track the impact of performance as a pedagogical technique on students' reflective and coping strategies. The study was conducted at the National University of Ostroh Academy (Ukraine) in the first autumn semester of 2024 (from September to December) on a sample of 120 students from such study programs as Psychology and Public Health. The type of design was a pretest-posttest experimental design (PPED), where we measured indicators both before (pretest) and after (posttest) the performance intervention. The methodological framework consisted of three approaches: the Reflective Problem-Solving Strategies (RPSS) (Savchenko and Makienko), the Coping Inventory for Stressful Situations (CISS) (Endler and Parker), and the BASIC Ph model (Lahad and Leykin). The study presented descriptive statistics, a chi-square test (x2), and Pearson's correlation analysis to show connections between reflective and coping strategies. The study stated that performance positively changes reflective strategies, transforming and adapting them to external conditions. In particular, the results showed that students most frequently employed reflective strategies such as "Criticality in Analyzing and Evaluating Information" and "Making Decisions Based on Internal Standards" to achieve a more effective and systematic analysis of problems that arise during problem-solving. The Pearson correlation analysis revealed that reflective strategies correlate most strongly with active and adaptive coping strategies, such as the Social Distraction Scale (CSSS) and Social Support (BASIC Ph), indicating the importance of social (group) interaction in the development of cognitive skills. Altogether, the avoidance coping strategies have been decreased significantly, indicating an increase in problem-solving, decision-making, and responsibility. The conclusion is that performance increases reflective strategies by directly solving problems, using external resources as emotional support and social coordination within the group. Performance can create open conditions for reflective problem-solving and deep emotional support between participants, which will further increase student achievement and learning motivation.

Keywords: *performance in higher education, performativity, reflective strategies, coping strategies, resilience, students.*

Introduction and Theoretical Framework

The modern educational environment is characterized by the fundamental revision of classical didactic approaches, considering the growing crisis in how knowledge is acquired and reproduced. In particular, the traditional or singular teaching approach assumes that the teacher is the subject, and the student is the object, where the main task is the accumulation and assimilation of knowledge (Hu, 2024, p. 215). Modern developmental psychologists and educators (Marchenko, Slipchuk and Yuzkiv, 2023; Shin, 2023; Bokolo, 2024) emphasize the fundamental inefficiency of the linear knowledge transition, underlining the importance of interaction and engagement for effective learning. In this approach, the teacher distances themselves from the student, assuming automatic reproduction of the material without emotional or physical engagement. Students need direct engagement in learning, not so much to understand but to experience knowledge performatively: "In order to address this, institutions of higher education all around the world are required to deploy engaging and innovative approaches to improve the motivation and learn-

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ing satisfaction of their students" (Bokolo, 2024, p. 1402). This fact illustrates the dual connection between cognitive processes and performative actions. On the one hand, knowledge needs its practical embodiment to be transformed into individual experience to acquire a more useful and "actionable" meaning. On the other hand, performativity enables the development of new types of knowledge and skills, often creating uncertain conditions in which students work together to seek solutions.

In our study, we define *performance* as a pedagogical approach that allows achieving educational and extracurricular results through interactive, body-oriented, and demonstrative collaboration between teacher and students. Accordingly, *performative tasks* are the results of using appropriate performative techniques (role-playing, dramatic scenarios, process drama, embodied learning, reflection, and metacognition) to create more engaging, interactive, and profound experiences. Applying performance and performativity in higher education offers an alternative to classical pedagogical methods. The classical approach suggests the teachers' role lies in a vertical hierarchy of their students (Chapman, 2021; Sahito, 2025), where the latter perceive knowledge merely as received information – a set of skills and abilities for further professional development. In contrast, a performance approach in higher education eliminates the hierarchy between educational roles, enabling a freer and often spontaneous educational process.

Some scholars connect performative learning with active learning, where the latter "has been accepted as a new learning-teaching methodology that focuses more on the participation of students than the traditional learning-teaching model" (Sahito, 2025, p. 110). Students must be perceived as active learners, and what is visible and easily observable is measured (Macfarlane and Tomlinson, 2017). Following the theories of Vygotsky and Piaget, proponents of this approach believe that active learning improves students' cognitive skills, problem-solving skills, and socialization (Bucklin et al., 2021; Sahito, 2025). Active learning involves utilizing interactive tools to achieve better cognitive outcomes. In an interactive learning environment, students function as learning resources for each other: they communicate, observe each other's work, share ideas, and make collective decisions. Macfarlane (2014) underlines this activity in the following way: "In parallel, students are now expected to demonstrate more visibly that they are 'learning' rather than simply being offered the opportunity to attend lectures and seminars. What it means to be a student, not just the product of their intellectual endeavors undertaken in private, is now observed and evaluated" (p. 339). The physical presence of students in the classroom fosters social interaction and cohesion (Baars et al., 2020), through which they exchange experiences and acquire new knowledge.

In contrast, performative learning is already a tool that enables students to transform knowledge and algorithmic (operational) skills (Carlomagno, 2021). Some of these tools and actions are conscious, which take performance beyond the group into one's individual life: "With awareness comes the ability to adjust your actions and how you interpret the actions of others" (Schechner, 2020, p. 4). This conclusion is relevant to any performance, including educational performance. Karpovets and Pasichnyk (2024) note the performative perspective "assumes two critical conditions: both the use of performative methods in the activation of one's cognitive abilities during educational activities and the achievement of the best result of cognitive activity as a performance" (p. 58). The pressure to meet grading standards and achieve high academic outcomes can either motivate students to refine their cognitive strategies or lead to maladaptive coping behaviors such as procrastination and avoidance. The task of teachers is to create an environment through their performance that promotes self-reflection and motivation for learning (Achdiyah, Latipun and Yuniardi, 2023, p. 86). Engagement in performance encourages students to grow closer to one another and to push beyond the boundaries of familiar cognitive schemes and models.

Performance focuses on the procedural aspect of education, where psychological processes such as emotional and physical engagement, student well-being and performance satisfaction are fundamental (Kulkarni et al., 2020; Nysveen et al., 2022). A distinctive feature of this educational "effectiveness" is that performance always means an activity in front of the audience or self-presentation. As Cvejić (2015) suggests, a person enacts performativity (and simultaneously becomes performative) to the extent that they can sense themselves and present their performance to others (p. 72). Hence, presentation in performance involves not only presenting the material, but also one's identity and often a group vision, which usually involves stress and anxiety (Caron et al., 2021; Grieve et al., 2021). Although some studies show that the presence of an audience might encourage a person to perform better (Zaharani and Sirehar, 2020), there is still a need to find coping strategies that students can rely on during performative learning, from the preparation stage to the final presentation.

Performative activity in higher education encompasses a wide range of actions, from engaging

with emotional intelligence (Padilla Petry et al., 2022; Bokolo, 2024) to transforming of cognitive paradigms (Nicolaides, 2022; Østern et al., 2023) through the performance of specific scenarios and practices. In a psychological context, one of the primary functions of performance in higher education is to shift the ways of thinking within academic activity (Karpovets and Pasichnyk, 2024). Students primarily assessed based on grades may focus solely on memorization and achieving high marks – essential but not central to a deep understanding of the subject. Performative activity redirects cognitive processes from surface learning to more critical and reflective comprehension of material by encouraging interaction and reflexivity (Macfarlane, 2014, p. 342), thereby fostering a holistic adjustment of thinking processes through collaborative actions. In such interaction, there are no better or worse results; every contribution is valuable and significant. Consequently, students experience less pressure than traditional classes, as the process rather than the outcome becomes the focal point of academic activity. By creating a comfortable and inclusive environment for interaction, educators aim to overcome students' fears and biases rooted in their cultural backgrounds. In other words, the teacher's "psychological goal" is to liberate students from error stress or feelings of guilt. Regarding this fact, the main elements of performance in higher education include staging, interactivity, mimesis, improvisation, creativity, and presentation (Macfarlane, 2014; Nysveen et al., 2022; Shin, 2023; Li, 2023).

The involvement of students in performance enables them to develop critical cognitive abilities and skills, which are essential for both successful learning and socialization. Researchers emphasize that one's interaction with classmates positively affects cognitive processes and changes (Anderson, 2013; Slavin, 2014; Qureshi, 2021; Arjomandi et al., 2023); thus, we assume that the more students interact with performance in their physical classrooms, the more they improve their cognitive abilities and strategies. Performance encourages not only the accumulation of knowledge about the subject but also develops personal and collective interest, creative skills, meaning-making, and problem-solving, as well as metacognitive techniques that help correct and regulate successful and unsuccessful cognitive strategies (Balashov, 2022). Finally, the interplay between reflective and coping strategies/sources in performance determines students' capacity to engage in meaningful reflection and adopt those techniques that either support or hinder their academic success (Figure 1).

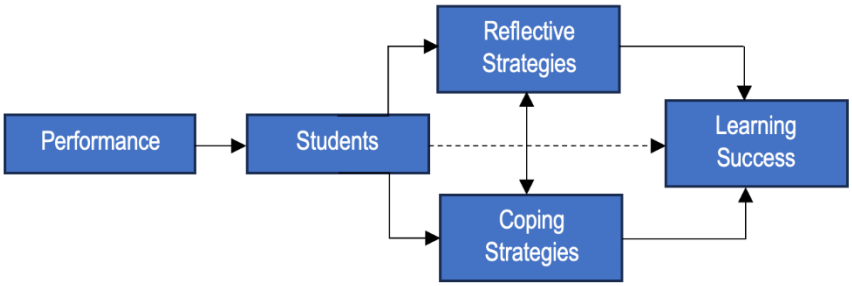

Figure 1. Conceptual diagram of the mutual influence of reflective and coping strategies on students' learning success

Higher education presents students with numerous academic, social, and psychological challenges that demand effective reflective and coping strategies (Gustems-Carnicer et al., 2019; Kalamazh et al., 2024). As Endler and Parker (1994) state, "coping strategies play a significant role in a person's adaptation to stressful life events" (p. 50); thus, learning at the university influences the development of essential strategies for long-term sustainability. Egozi-Farkash et al. (2025) state that resilience is a multi-faceted construct influenced by many factors, from individual personality traits to external support systems. We also agree with Waterhouse and Samra (2025), who define "coping as a dynamic process that is the outcome of the interaction between the individual and their environment" (p. 26). The university is such an external environment that, in addition to challenges, can also offer opportunities for resilience. In our case, we define *coping strategies* as specific psychological and behavioral techniques that help students manage stress during learning, enabling them to stay focused, motivated, and perform more effectively. All in all, understanding the relationship between academic performance and students' reflective and coping strategies within the environment is crucial for developing interventions that foster resilience, adaptability, and overall well-being in higher education settings.

We hypothesize that incorporating performance into the classroom will strengthen students' reflective strategies, encouraging them to seek coping strategies that focus on social adaptation and interaction. We assume that the more students resolve complex group tasks, the more they develop their cognitive abilities through social coping without avoiding learning challenges and problems.

Materials and Methods

We conducted an empirical study with a sample of 120 volunteer students from the Institute of Social and Humanitarian Management at the National University of Ostroh Academy (Ukraine), representing undergraduate programs such as "Psychology" (74%) and "Public Health" (26%). Participants did not receive any remuneration for their participation, and all of them belonged to the Ukrainian ethnic group. We did not consider gender differences in the sample since most students are women (M_{age} = 18,57, SD_{age} = 1,32). We collected the research data during the first autumn semester of 2024, which started in September and finished in December. The questionnaires enabled us to collect data that was available online in Google Forms, which we provided access to at the beginning and end of the courses. Participants could click on the link to the questionnaire and fill out the data while remaining anonymous.

The experiment with performance will show how students combine reflective and coping strategies to achieve performative tasks and learning success. In our study, we employed a pretest-posttest experimental design (PPED), where we measured indicators of the selected methodologies both before (pretest) and after (posttest) the performance intervention. The research design involved the use of three empirical methods: the Reflective Problem-Solving Strategies (RPSS) (Savchenko, 2016), the Coping Inventory for Stressful Situations (CISS) (Endler and Parker, 1990), and the BASIC Ph model (Lahad, 2017). The use of these models provided a robust methodological triangulation, enhancing the validity of our findings.

The RPSS approach consisted of 35 statements that allowed us to explore four reflective strategies for solving complex problems: Deep Information Processing, Criticality in Analyzing and Evaluating Information, Making Decisions Based on Internal Standards, and a Rational Approach to Problem-Solving. Each statement proposes two options that describe a specific aspect of the reflective strategy. The respondent must choose one of the given options, which is rated 1 or 0. Each reflective strategy has a defined range of points, which are divided into low, medium, and high levels. The scales were tested for consistency of their components using Cronbach's alpha (Savchenko, 2016, p. 191). As Savchenko (2016) states, cognitive strategies propose a specific strategy for obtaining, storing, and utilizing information to achieve a particular goal (p. 192). There is no conceptual or methodological distinction between reflective or cognitive strategies, as they are equally aimed at actualizing certain mental operations to resolve a difficult situation or challenge.

Simultaneously, the CISS and BASIC Ph models unpacked the specific resources that contribute to achieving the obtained cognitive results during performance. The CISS model is a designed framework that allows the definition of coping styles based on three primary dimensions: Task-Oriented Coping, Emotion-Oriented Coping, and Avoidance-Oriented Coping (Endler and Parker, 1990; Endler and Parker, 1994). The latter coping has two aspects – Distraction and Social Diversion – also present in this research. The methodology comprises 48 questions, each rated on a scale of 1 to 5 (ranging from "never" to "most often"), providing an opportunity to explore coping strategies essential for managing stress. The level of coping strategy use is determined by summing the scores according to the specified criteria.

To strengthen coping strategies, we also utilized the BASIC Ph model as an additional measure of resources for overcoming stressful situations and promoting a person's internal stability. The framework proposes six coping strategies or sources for overcoming stress: B for Belief, A for Affect, S for Social Support, I for Imagination, C for Cognitive, and Ph for Physiology (Lahad, 2017). The questionnaire presents statements through which students should rate their coping strategies for stress, ranging from "I rarely use this way to cope with a difficult situation" to "I always use this way to cope with a difficult situation" (on a scale of 0 to 6). Kalamazh et al. (2024) show a direct connection between this framework and coping strategies: "It's important to acknowledge an individual's preferred coping style in the BASIC Ph model, but all the factors can be utilized during stressful situations to strengthen or develop coping mechanisms" (p. 99). The BASIC Ph framework is also helpful because Ukrainian students studied during the war. Thus, their psycho-emotional state affects both their participation in the performance and their learning outcomes.

The collected empirical data was processed using Microsoft Excel 2024 and IBM SPSS 21. We

systematized and structured the data in Microsoft Excel 2024 before and after the experiment. In IBM SPSS 21, we tested all descriptive statistics, statistical coefficients, and dependencies.

We summarized the obtained results to analyze the changes before and after the experiment with performance (for this purpose, we standardized all results to a common level). Then, we used general descriptive statistics to understand the main characteristics of the collected data, including the mean of all the values obtained, the standard deviation, and the standard error of the mean. We used a chi-square test (x^2) to check for a statistically significant relationship between the two categorical variables ($p \leq .050$). Finally, we conducted a Pearson correlation analysis (r) on the data to determine if a pattern existed between the two continuous variables before and after the experiment ($p \leq .010$).

Results and Discussions

We generalized the collected data before and after the experiment with performance according to high, medium, and low levels in **Table 1**. The data enabled us to observe the nature of changes, correlations, and statistical errors, which we summarized in the following tables and figures.

Table 1. *The general results before and after the experiment*

Study variables	Experiment period	High level		Intermediate level		Low level	
		quantity	%	quantity	%	quantity	%
The Reflective Problem-Solving Strategies (Savchenko and Makienko)							
Deep Information Processing (DIP)	before	12	13,3	64	71,1	14	15,6
	after	17	18,9	67	74,4	6	6,7
Criticality in Analyzing and Evaluating Information	before	21	23,3	42	46,7	27	30,0
	after	38	42,2	50	55,6	2	2,2
Making Decisions Based on Internal Standards	before	9	10,0	32	35,6	49	54,5
	after	24	26,7	52	57,8	14	15,6
Rational Approach to Problem-Solving	before	18	20,0	54	60,0	18	20,0
	after	32	35,6	54	60,0	4	4,4
General Level	before	12	13,3	52	57,8	26	28,9
	after	21	23,3	60	66,7	9	10,0
The Coping Inventory for Stressful Situations (CISS) (Endler and Parker)							
Task-Oriented Coping	before	65	72,2	23	26,6	2	2,2
	after	48	53,3	38	42,2	4	4,4
Emotion-Focused Coping	before	26	28,9	59	65,6	5	5,6
	after	17	18,9	67	74,4	6	6,7
Avoidance Coping	before	22	24,4	66	73,3	2	2,2
	after	19	21,1	54	60,0	17	18,9
Distraction Scale	before	7	7,8	79	87,8	4	4,4
	after	46	51,1	34	37,8	10	11,1
Social Distraction Scale	before	49	54,4	39	43,3	2	2,2
	after	65	72,2	20	22,2	5	5,6
The BASIC Ph Model of Coping and Resiliency (Lahad and Leykin)							
Belief (B)	before	12	13,3	54	60,0	24	26,7
	after	17	18,9	65	72,2	8	8,9
Affect (A)	before	5	5,6	58	64,4	27	30,0
	after	18	20,0	70	77,8	2	2,2
Social Support (S)	before	9	10,0	47	52,2	34	37,8
	after	26	28,9	62	68,9	2	2,2
Imagination (I)	before	17	18,9	50	55,6	23	25,6
	after	18	20,0	69	76,7	3	3,3
Cognition (C)	before	48	53,3	37	41,1	5	5,6
	after	31	34,4	57	63,3	2	2,2
Physiology (Ph)	before	9	10,0	56	62,2	25	27,8
	after	19	21,1	69	76,7	2	2,2

The chi-square test (x^2) results in Figure 2 showed that the differences before and after the experiment are statistically significant. Hence, the actions during the experiment affect the improvement or deterioration of the result. There is a discrepancy between most variables because the chi-square value is more considerable. Among the reflective strategies, the strategy "Making Decisions Based on Internal Standards" has a value=31.025, Distraction Subscale has a value=49.19, and Socialization (S) has a value=38.766.

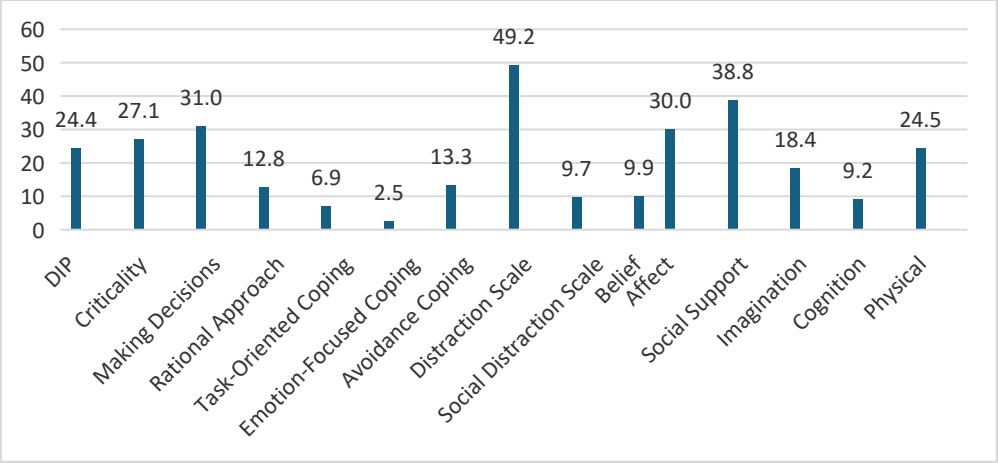

Figure 2. The chi-square test (x^2) results for the studied samples

The obtained results (Figure 3) showed variables in individual indicators, which indicates the impact of performance on students' cognitive activity. According to the given results, the strategies that changed the most on the high levels were "Making Decisions Based on Internal Standards" (from 10,0% to 26,7%), "Criticality in Analyzing and Evaluating Information" (from 23.3% to 42.2%), and "Rational Approach to Problem-Solving" (from 20,0% to 35,6%). Compared to these strategies, the strategy "Deep Information Processing (DIP)" underwent the least changes, although it also showed positive dynamics.

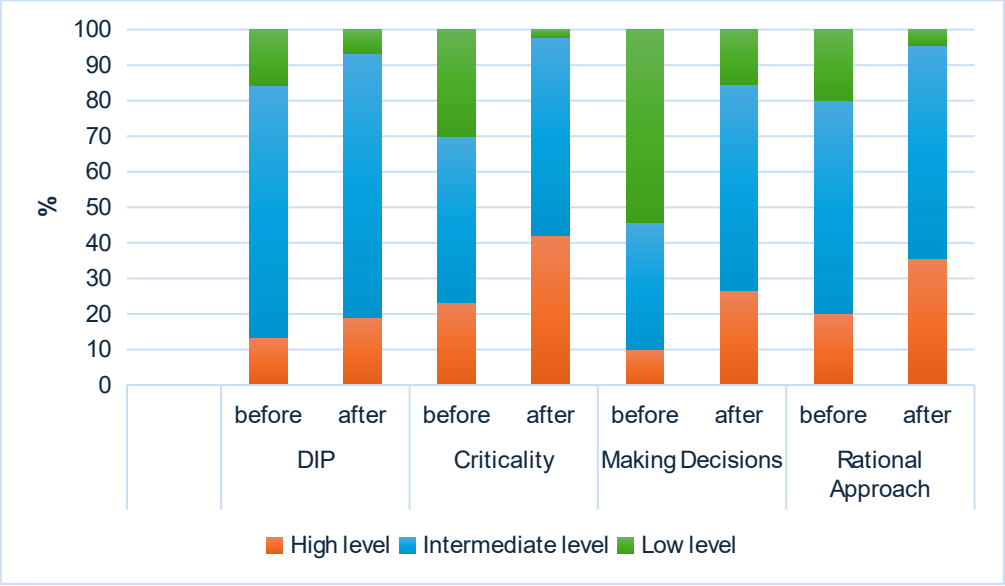

Figure 3. The general changes in the results of the Reflective Problem-Solving Strategies

The reflective strategy "Deep Information Processing (DIP)" has minor changes at all levels, indicating a moderate impact on the performance of this strategy. Since this strategy reflects "the focus of the subject's internal activity on collecting and processing information in the process of problem-solving" (Savchenko, 2016, p. 193), the higher the results of this strategy, the more subjects are "aware of their behavioral resources" (Savchenko, 2016, p. 194). The change in the overall results gives reason to believe that performance does not provide an opportunity for deep reflection and introspection because it requires "going" beyond one's experience and knowledge in search of external resources (Myroshnyk, 2020; Achdiyah, 2023). Altogether, the small changes of high and average indicators prove that for students, it is still

critical not only to solve the task but also to approach the search for a solution as "an important aspect of self-determination and self-realization" (Savchenko, 2016, p. 195).

The growth of the reflective strategy "Criticality in Analyzing and Evaluating Information" indicates a positive impact of performance on the level of students' reflectivity as an integral feature of their personality, which "ensures the correlation of their actions with the specifics of the situation, their coordination by internal and external conditions" (Savchenko, 2016, p. 196). This difference indicates that students quickly and effectively adjusted their starting points during the performance, were influenced by other participants, and corrected and improved the solution to the problem. It proves that criticality effects of thinking and behavior (Golden, 2023), and then it should "lead to practical action and real change" (Indrašiene et al., 2023, p. 2). Such a strategy develops reflectivity and helps find more accurate solutions to problems, albeit with more time and effort.

In contrast, the reflective strategy of "Making Decisions Based on Internal Standards" is focused on considering subjective assessments and judgments while "ignoring certain external requirements" (Savchenko, 2016, p. 196). The changes in this strategy after the experiment indicate that the students began to pay more attention to social support in task-solving, where the teacher's support plays a crucial role (Indrašiene et al., 2023, p. 6). The low use of this strategy (its level has fallen the most, from 54.5% to 15.6%) also contributes to an increase in the level of responsibility by increasing personal contribution to the performative solution of the task. This fact proves the assumption that there is always a division of responsibilities among the participants in performance. It is worth noting that the high use (from 10,0% to 26,7%) of this strategy reduces the ability to act independently. Therefore, it is essential for teachers also to acknowledge the individual contributions of all participants (Karpovets and Pasichnyk, 2024), who may often rely on the efforts of others (for example, more successful and proactive students).

The "Rational Approach to Problem Solving" strategy further confirms the latter trend, determining the overall level of self-regulation. As we can see, a third of students at the high level (from 20.0% to 35.6%) improved their ability to "form realistic, stable, and detailed plans" (Savchenko, 2016, p. 198) through new social connections and contacts. We assume that they could not always plan their work objectively and rationally on their own, so group work, to some extent, corrected and honed their rationality. The lack of changes at the middle level indicates that for many students, it is still critical to learn to critically overcome situations with a high level of uncertainty and control their anxiety (Kalamazh et al., 2023). The latter fact necessitates the search for coping strategies and resources to enhance students' resilience.

We also observed changes in the CISS results before and after the experiment with performance (Figure 4) to determine whether the students adjusted their coping strategies to achieve better learning and performative outcomes. The Task-Oriented Coping (from 72.2% to 53.3%) and Distraction Scale (from 7.8% to 51.1%) present a high level, the Distraction Scale (from 87.8% to 37.8%), the Social Distraction Scale (from 43.3% to 22.2%) show a medium level, and the Avoidance Coping (from 2.2% to 18.9%) demonstrates a low level of coping strategies.

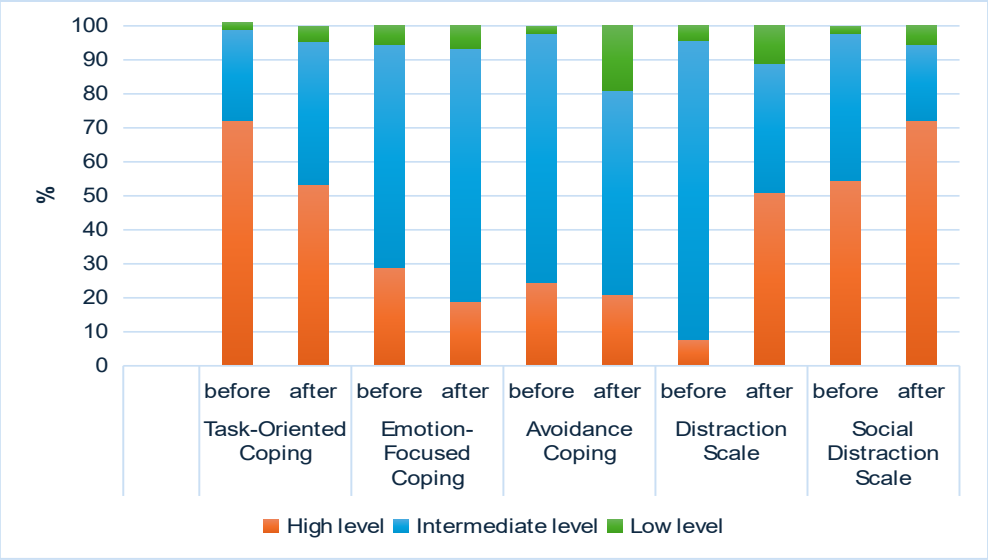

Figure 4. The general changes in the results of the CISS Strategies

The results of the BASIC Ph method (Figure 5**)** showed that Cognition (C) had changed the most at the high level (from 53.3% to 34.4%), Imagination (I) at the medium level (from 55.6% to 76.7%), and Social Support (S) at the low level (from 37.8% to 2.2%). The obtained results are the consequence of pedagogical performance, while other pedagogical techniques might have different meanings.

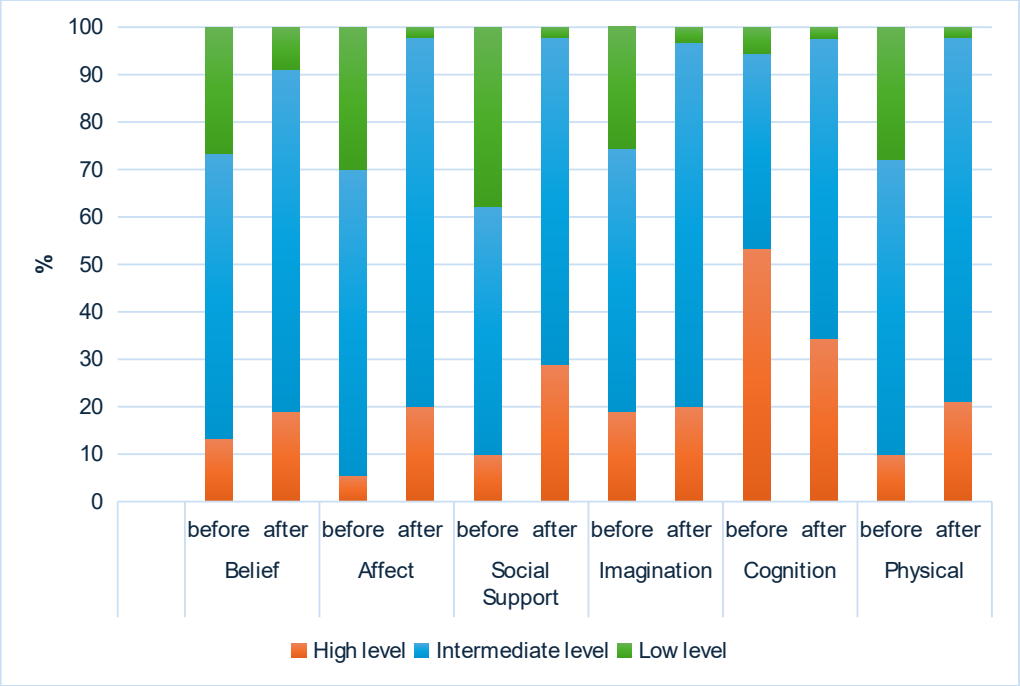

Figure 5. The general changes in the results of the BASIC Ph model

In Table 2, the Pearson correlation analysis (r) showed how the relationships between reflective strategies, coping strategies, and the BASIC Ph parameters have changed before and after the experiment, where * indicates a weak positive correlation (r = 0.20-0.39) and ** indicates a medium positive correlation (r = 0.39-0.59).

The positive correlations mainly dominate within the obtained data. However, none of the strategies showed a strong positive or negative correlation with each other (in contrast to the correlations within each strategy). Since we implemented the experiment in a short academic period (1 semester), there was not enough time to establish a deeper correlation between the data. However, even for this brief period, there is a noticeable tendency in the increase or decrease of correlations between the data, which indicates the influence of performance on students' reflective and coping strategies in their learning process.

The positive correlation between the reflective "Deep Information Processing" strategy and Task-Oriented Coping after the experiment (r = 0.428) indicates that deep reflective work encourages students to solve problems instead of avoiding them. We suggest that the reflective "Deep Information Processing" strategy involves profound processing and understanding of the material, and, therefore, students need to be critical of their cognitive experience. Accordingly, the more students "immerse" themselves in the information, the more they are critical of it and set new tasks and goals for themselves, overcoming doubts and uncertainty in such a way (Asikainen and Gijbels, 2017). From the perspective of educational psychology, this relationship highlights how deeper levels of cognitive processing contribute to more proactive, purposeful responses to academic demands (Indrašiene at al., 2023).

Table 2. *The correlation between data before and after the experiment*

Study variables	Experiment Period	The Pearson Correlation Coefficient (r)				
		Deep Information Processing	Criticality in Analyzing and Evaluating Information	Making Decisions Based on Internal Standards	Rational Approach to Problem Solving	General Level
Task-Oriented Coping	before	0,295*	0,144	-0,022	0,093	0,212
	after	0,428**	0,081	0,241*	0,362*	0,401*
Emotion-Focused Coping	before	0,019	-0,051	0,1	-0,311*	-0,083
	after	0,102	0,112	0,362*	0,092	0,286*
Avoidance Coping	before	0,352*	0,319*	-0,058	0,224*	0,296*
	after	0,042	0,149	-0,168	-0,106	0,082
Distraction Scale	before	0,202*	0,301*	-0,148	0,297*	0,252*
	after	0,052	0,074	-0,118	0,082	0,063
Social Distraction Scale	before	0,146	0,195	-0,003	0,136	0,193
	after	0,327*	0,352*	0,303*	0,286*	0,332*
Belief	before	0,048	0,126	0,065	0,036	0,107
	after	-0,037	0,142	0,016	0,112	0,03
Affect	before	0,042	0,027	-0,032	-0,149	-0,073
	after	0,144	0,413**	0,182	0,041	0,301*
Social Support	before	-0,006	0,202*	-0,082	0,052	0,104
	after	0,199	0,384*	0,359*	0,287*	0,361*
Imagination	before	-0,13	-0,033	0,089	-0,134	-0,09
	after	-0,147	-0,065	-0,043	-0,011	-0,222*
Cognition	before	0,109	0,138	0,001	0,196	0,177
	after	0,09	0,291*	0,164	0,427**	0,313*
Physical	before	0,125	-0,127	-0,032	-0,02	0,007
	after	0,177	0,158	0,297*	0,202*	0,267*

According to Table 2, the Avoidance Coping has decreased from r = 0.352 to r = 0.042, and the Distraction Scale has decreased from r = 0.202 to r = 0.052. We noticed that interactive exercises, participation in discussions, or group work help to assimilate the material more effectively, which confirms the positive effect of performance on these two strategies. Moreover, the positive correlation with the Social Distraction Scale (from r = 0.146 to r = 0.327) indicates that internal resources are insufficient to process information effectively, and therefore group cooperation is an important addition to achieving student success and emotional sustainability (Slavin, 2014; Asikaine et al., 2020). The current correlation proves that in performance, students form attachments through a sense of belonging and social connection as they jointly complete tasks and present their work publicly (Nysveen et al., 2022). Thus, students use the Social Distraction Scale to coordinate their thoughts and actions with other participants, positively affecting cognitive engagement in such a way. Yet some researchers are less optimistic about engagement in performance (Macfarlane and Tomlinson, 2017), so it is important not to idealize this approach and always consider the presence of students with different levels of motivation and engagement.

The "Criticality in Analyzing and Evaluating Information" strategy reflects the same trend, as students are less likely to avoid problems in their activities and more likely to perform learning tasks responsibly with their classmates. Before the experiment, the Avoidance Coping r = 0.319 and the Distraction Scale r = 0.301 demonstrated an average positive correlation. Altogether, the correlation with the Social Distraction Scale has increased from r = 0.195 to r = 0.352, while the relationship with Social Support (S) has changed from r = 0.202 to r = 0.384. Although this value did not increase significantly, it still demonstrated positive dynamics in seeking social support when students faced difficulties (such as a challenging task or needing to interact in a group) during performance (Alipio, 2020; Achdiyah, Latipun and Yuniardi, 2023).

Simultaneously, the most unexpected finding was the increase in positive correlation with Affect (A)

from the BASIC Ph model (from r = 0.027 to r = 0.413). For critical evaluation of information and effective task-solving with partners in performance, it is necessary to establish an emotional connection (vital for psychologists, who represented most of this sample). Emotion research in education suggests that the connection between affect and cognition is more than obvious, going beyond anxiety and stress Kalamazh et al., 2023). Zulvi and Abidin (2025) demonstrate that students engage in emotion-oriented coping strategies when adapting to stressors, achieving better learning outcomes (p. 36). We also suggest that these coping strategies are one of the adaptive ways to manage uncertain conditions in performance. Hence, such a correlation indicates both the importance of mastering stressful emotions and, at the same time, reveals a broader spectrum of affect (D'Mello and Graesser, 2012; Ruitenberg, 2015), which contributes to better interaction during learning.

The positive correlation between the strategy "Making Decisions Based on Internal Standards" and the social scales also confirms the importance of collective support and cooperation in solving tasks. This correlation suggests that individual activity does not conflict with the collective dynamics of performance, complementing it through developed internal standards for decision-making. At the same time, we have the opposite effect, when students build their internal standards and values through meaningful interaction within the social learning environment. The correlation shifts with Social Support (S) (from r = -0.082 to r = 0.359) and the Social Distraction Scale (from r = -0.003 to r = 0.303) illustrates the following tendency: the more students need to make decisions based on internal standards, the more they turn to social interaction (Indrašiene et al., 2023). In an academic environment, such students contribute to group activity not by passively conforming, but by enriching the dialogue with well-formed ideas, which strengthens social ties and mutual respect. This correlation can be interpreted through the prism of dialogical constructivism, when internal standards and guidelines are formed in context through a series of repetitive, even ritualistic actions, which is what provides performance. This practice requires emotional resources, as indicated by a moderate increase in the correlation with Emotion-Focused Coping (from r = 0.100 to r = 0.363). Also noticeable is the tendency to change the correlations with Task-Oriented Coping (from r = -0.022 to r = 0.241), which underscores the importance of combining a "systematic approach to problem-solving" (Savchenko, 2016, p. 197) with analysis, task distribution, and decision-making in performative learning.

Finally, the Pearson correlation analysis showed that there was a moderate positive relationship between the reflective strategy "Rational Approach to Problem-Solving" with Task-Oriented Coping (r = -0.093 to r = 0.362), Social Distraction Scale (r = -0.136 to r = 0.286), Social Support (S) (r = -0.052 to r = 0.286), and Cognition (C) (r = -0.196 to r = 0.427). The current correlations indicate that after the performance, students began to combine a rational approach with direct task-solving and social support (both coping strategies confirmed this). Suppose students previously avoided solutions in complex task-solving. In that case, they have now started to do so less, as indicated by the tendency towards a negative correlation with Avoidance Coping (from r = 0.224 to r = -0.106) and the Distraction Scale (from r = 0.297 to r = -0.082). We can also note a slight tendency towards a stronger correlation with Physiology (Ph) (from r = -0.020 to r = -0.202), which indicates the importance of engaging in this coping to control one's cognitive and emotional states (Achdiyah et al., 2023; Li, 2023).

The reflective strategies interacted the least with Belief (B) and Imagination (I) strategies, which proved a low or very low correlation before and after the experiment. We state that belief (B) requires personal (spiritual) and internal resources, while performance is more oriented towards external factors (Denzin, 2009; Arjomandi et al., 2023). Hence, the implementation of interactive and group tasks does not suggest this coping. Imagination (I) may be a way to avoid deep reflection (not because of weakness, but as a more emotionally safer strategy). However, as previous correlations have shown, students still solve and experience tasks more directly in performance, relying on each other's help. Altogether, the correlation with the general level of Reflective Problem-Solving Strategies increases students' social activity, utilizing cognitive, emotional, and physical capabilities to solve problems (Russell, 2017). This research supports the notion that coping strategies enable students to navigate academic pressures, and these strategies may vary, resulting in multiple approaches (Karyotaki et al., 2020). The results obtained may change with the use of other performative techniques; therefore, it is possible to conduct a longer experiment in the future to see how correlations will change.

The obtained results may be helpful for university educators who are evaluating their teaching performance and seeking optimal coping strategies. First, the use of performance allows students to develop reflexivity as an integral feature of their personality, critical perception of information, and a rational

approach to the subject. The cooperative nature of performance enhances reflexivity through joint discussion, critical thinking, and metacognition, thereby increasing learning outcomes. Secondly, performance may also strengthen social avoidance coping, which is essential for further adaptation. In other words, educators can use performative collaboration not only as a didactic strategy but also as a necessary resource for strengthening resilience to stress.

Conclusions

This study aimed to investigate the impact of performance on the use of reflective and coping strategies for academic tasks. We found that performance had a significantly positive effect on the average level of students' reflective skills, the increase of which was attributed to group interaction, collaboration, and critical reflection. We confirmed our hypothesis because students most developed strategies such as "Criticality in Analyzing and Evaluating Information" and "Making Decisions Based on Internal Standards" after the performance, which involved applying their reflective abilities to the specifics of the situation and finding social support in task-solving. The students' use of cognitive coping strategies, namely Task-Oriented Coping and Cognition (C), corresponds to the specifics of the academic environment, where students directly solve problems (tasks) that cause stress and anxiety to achieve success and improve their learning performance.

The most notable correlation was between reflective strategies and coping strategies, specifically social distraction (Endler and Parker) and Social Support (S) (Lahad and Leykin). The positive correlation indicates that the nature of performative tasks involves the formation of social connections, distributing roles and responsibilities, decision-making, and forming responsibility as a condition for developing students' reflectivity. Therefore, the Avoidance Coping and the Distraction Scale scores have decreased, indicating an increase in students' desire to solve the problem directly rather than look for ways to avoid it. Also, an essential result of this study was that the condition for establishing social connections in performance is emotional connection (Emotion-Focused Coping and Affect (A), which involves trust, empathy, and control of one's emotions. Therefore, performance creates the conditions for collective, more thorough, and precise problem-solving, as well as the emotional support that participants provide to one another.

Based on our findings, further research should focus on an in-depth examination of the interaction between reflective strategies and emotional intelligence in performance. This study aims to strengthen or refute our observations regarding the importance of the emotional component in achieving academic success. We also suggest implementing longitudinal studies to increase the time frame from one semester to a year of study. It may allow for the demonstration of more fundamental changes in the reflective activity of higher education students.

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Author Contributions

Conceptualization, M.K. and I.P.; Methodology, M.K. and I.P.; Software, O.N.; Investigation, M.K. and O.N.; Formal Analysis, V.B. and O.N.; Validation, V.B. and O.N.; Writing (original draft preparation), M.K. and O.N.; Writing (review and editing), I.P. and V.B. All authors have read and agreed to the published version of the manuscript.

Conflict of interests

The authors declare no conflict of interest.

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