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Exploring Clip Thinking and Metacognitive Control among Higher Education Students: Empirical Insights from Blended Learning

Прояви кліпового мислення та метакогнітивного контролю у здобувачів вищої освіти: емпіричний аналіз у змішаному форматі навчання

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Abstract

The purpose. *The article aims to identify the specific features of metacognitive control and clip-like thinking among higher education students in a blended learning format, to assess the interrelation between these phenomena, and to determine their impact on the effectiveness of learning activities.*

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Methods of the research. *An empirical study was conducted with a sample of 132 higher education students using standardized diagnostic tools to assess reflective skills, cognitive strategies, and learning performance. Data processing and analysis were carried out through statistical methods, including factor analysis and correlation assessment, ensuring the reliability and validity of the obtained results.*

Results. *The findings revealed that the majority of participants demonstrate clip-like thinking, an insufficient level of attention development, poor concentration, and a limited ability to extract key information from texts. Reflective skills at the cognitive, personal, and metacognitive levels, as well as strategies of reflective activity, were found to be underdeveloped. At the same time, students tend to evaluate their own learning effectiveness at a high level.*

Significant correlations were found between learning effectiveness and the level of self-regulation, motivation, operational skills, and the ability to process information efficiently. Reflective skills and strategies of deep information processing contribute to improved task performance and the development of critical thinking, emphasizing the importance of an integrated approach within blended learning environments.

Conclusions. *A profile of a modern higher education student was developed: characterized by high motivation, organization, and self-regulation, along with the ability to plan and evaluate one's own learning activities. However, a tendency toward clip-like thinking was also observed, which facilitates rapid perception of information but limits attention span and the depth of analytical processing.*

Key words: *metacognitive control, clip thinking, reflective skills, cognitive strategies, blended learning, empirical study.*

Introduction

Contemporary education is undergoing dynamic transformations under the influence of numerous factors, including the COVID-19 pandemic, the full-scale invasion, and internal and international migration. These circumstances have prompted forced changes in the organization of the educational process and created new cognitive conditions for higher education students. In this context, the phenomenon of clip thinking – superficial, fragmentary, and predominantly visual information processing – gains particular significance. Researchers (Літвінова,

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2017; McLuhan, 2002; Toffler, 1980) note that clip thinking is characterized by short attention spans, simplified reasoning, predominance of emotional over analytical processing, and difficulties in integrating complex theoretical constructs into a coherent knowledge framework. In blended learning environments, where educational content is often delivered in digital fragments (video lessons, slide presentations, test assignments), these characteristics become even more pronounced (Бушуєв, Корчова, Красильник, Руденко, & Козир, 2024).

At the same time, effective blended learning requires a high level of self-regulation, which is directly linked to the development of metacognitive control – the ability of students to plan, monitor, regulate, and evaluate their own cognitive activity (Балашов, 2019). Metacognitive control includes awareness of learning goals, strategic thinking, reflection, and self-correction (Baudrillard, 1994; Flavell, 1979). Thus, a content-based conflict arises between the characteristics of clip thinking and the requirements for effective metacognitive control.

However, contemporary studies (Балашов, 2020; Плот, 2019; Bürgler, & Hennecke, 2024) indicate that this conflict is not fatal. With purposeful pedagogical intervention, clip thinking can be transformed into a learning resource: the ability to rapidly evaluate large amounts of information, which can support the development of metacognitive monitoring under conditions of directed instruction, critical thinking development, and conscious selection of information-processing strategies. The use of microcontent, interactive digital tools, and multimedia cases that require active student participation promotes the integration of clip elements into a deeper metacognitive context.

Research on students' cognitive adaptation to online formats shows that, with adequate psychological and pedagogical support (training in learning autonomy, reflective journals, self-assessment scenarios), the level of metacognitive control can not only be maintained but also enhanced (Smith, & Ralph, 2023). Therefore, innovative approaches in educational psycho-

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logy may focus less on reducing the effects of clip thinking and more on developing strategies for its regulated use in learning activities.

Specifically, the paradoxical effect described by Endres, Lovell, et al. (Endres, & Lovell, 2023) demonstrates that higher prior knowledge in students can increase intrinsic cognitive load, as most tasks require deep analysis, classification, and, crucially, rapid establishment of connections between different knowledge domains. This aligns with the characteristics of clip thinking: students with a substantial knowledge base often struggle to establish such interdisciplinary connections and, on that basis, form a coherent and structured understanding of the object of study or phenomenon, which complicates the integration of new knowledge.

Metacognitive control serves as a key mechanism for overcoming these difficulties: it allows students to recognize their cognitive load, select appropriate learning strategies, and adapt the pace and methods of study, ensuring deeper and more autonomous knowledge acquisition. This is particularly important under conditions of high intrinsic load and a cognitive tendency toward fragmentary information processing.

The split-attention principle in cognitive load theory, proposed by P. Ayres and J. Sweller (Ayres, & Sweller, 2022), emphasizes that learning efficiency decreases when students are forced to focus simultaneously on multiple sources of information that are not integrated into a single coherent flow. The combination of clip thinking and the split-attention effect increases the risk of superficial material comprehension. Therefore, effective learning requires integrating learning elements and purposefully developing metacognitive control.

The integrative approach proposed by de Bruin et al. (de Bruin, & Roelle, 2020) combines cognitive load theory and self-regulated learning theory, emphasizing the importance of simultaneously managing extraneous load on working memory and developing metacognitive strategies. This approach is espe-

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cially relevant in digital environments, where clip thinking can increase cognitive load and hinder the formation of coherent understanding of material.

Additionally, studies by W. Li, F. Wang, and R. E. Mayer (Wang, & Mayer, 2024) indicate that excessive photorealism of virtual instructors increases students' visual attention but reduces learning effectiveness, which is related to clip-style thinking and overload of metacognitive processes. Using stylized or semi-animated representations helps maintain a balance between attention engagement and activation of metacognitive control.

Despite numerous theoretical insights, research on practical manifestations of clip thinking and metacognitive control among higher education students remains limited. Therefore, conducting diagnostic studies aimed at assessing the level of metacognitive control, the specifics of clip-based information processing, and the nature of their interrelation is particularly relevant. The obtained results will not only refine scientific understanding of the interaction of these cognitive phenomena but also provide practical recommendations for optimizing blended and distance learning, enhancing learning effectiveness, and fostering student learning autonomy.

Research Objective

The objective of this article is to identify the specific features of metacognitive control and clip-like thinking manifested by higher education students in a blended learning format, as well as to assess their interrelation and impact on the effectiveness of learning activities.

Methods and Research Procedure

The study was conducted at Kryvyi Rih State Pedagogical University with the participation of 132 higher education students. Given the specific nature of the phenomena under investigation, it is important to note that the number of validated and widely tested instruments in the domestic research context remains limited. This presents challenges in directly selecting

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diagnostic tools that fully align with the research objectives. Consequently, the methods included in the study were chosen based on their theoretical relevance, practical applicability, and prior use in related empirical research. In this way, the diagnostic battery was designed to indirectly capture key components of metacognitive regulation as well as the cognitive characteristics associated with clip thinking.

The diagnostic battery comprised the following instruments: the "Clip Thinking Diagnostics Test" (M.B. Litvinova); a set of authorial methods by O.V. Savchenko for assessing reflective skills at the cognitive, personal, and metacognitive levels; the "Cognitive Strategies for Problem Solving" method (O.V. Savchenko, M.Yu. Makiienko); the Thorndike test; and the "Monitoring of Students' Learning Effectiveness" method (I.S. Todorova).

Data analysis was performed using contemporary statistical techniques and software tools, including the examination of primary statistical parameters, assessment of distribution normality, exploration of variable structure, confirmatory factor analysis, and correlation analysis. This approach ensured the reliability of the results and provided a solid foundation for drawing conclusions regarding the development of students' metacognitive skills in blended learning environments. All procedures adhered to ethical standards, including principles of voluntary participation, anonymity, confidentiality of the collected data, and informed consent of the participants.

Results and Discussion

Based on the results of the theoretical analysis and the selected diagnostic methods, an empirical study was conducted, which made it possible to specify the identified trends. First, the statistical indicators across all applied methods are presented to verify the normality of data distribution and identify general trends.

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Table 1

Statistical indicators for the applied diagnostic battery

Diagnostic Battery	Diagnostic Battery	M	Me	SD	Sk	Ku	SW-p
Clip Thinking	Total Score	8.04	8.00	1.67	-0.081	-0.441	<.001
Reflective Skills (Cognitive Level)	Ability to explain one's reasoning	24.9	24.0	5.59	0.110	-0.182	0.302
	Ability to recognize one's own emotions	25.9	27.0	6.23	-0.423	-0.221	0.041
	Maintaining focus on reflective reasoning	27.5	27.0	6.54	0.203	0.108	0.401
	Organizing the problem-solving process	22.1	23.0	5.47	-0.302	0.638	0.087
	Evaluating results by different criteria	26.6	27.0	5.86	-0.165	0.805	0.263
	Awareness of various aspects of the process	24.5	24.0	5.38	-0.076	0.088	0.280
	Overall level of development	110	110	13.5	0.039	-0.134	0.933
Reflective Skills (Metacognitive Level)	Organizing problem-solving process	39.5	39	8.60	-0.126	0.576	0.438
	Predicting errors and difficulties	37.5	38	8.41	-0.188	0.052	0.671
	Regulating one's emotions	28.4	28	7.21	0.058	0.230	0.905
	Planning, evaluating, and verifying actions	30.1	31	6.31	-0.274	-0.094	0.555
	Creating probabilistic models	25.0	25	5.29	-0.161	0.441	0.247
	Monitoring forms of activity	29.0	29	6.30	0.061	0.024	0.575
	Critically evaluating intellectual abilities	26.0	25	4.93	0.286	-0.291	0.145
	Overall level	160	160	22.7	0.104	0.727	0.176

Reflective Skills (Personal Level)	Organizing the understanding of a problem-conflict situation	24.7	24	4.96	0.129	0.439	0.243
	Restructuring the problem-conflict situation model	25.2	25	5.24	0.242	0.158	0.106
	Determining activity goals	24.8	24	5.22	0.309	0.091	0.155
	Organizing internal dialogue	20.5	21	4.50	0.118	-0.196	0.472
	Flexibly changing position	21.1	21	5.13	-0.028	0.002	0.393
	Conducting thorough self-analysis	23.0	24	5.55	-0.273	0.482	0.104
	Determining a new meaning of one's situation	19.5	19	3.97	-0.251	0.863	0.007
	Overall level	159	156	17.6	0.042	0.414	0.322
Learning Strategies	Deep information processing	3.54	4.00	1.68	-0.218	-0.837	<.001
	Criticality in information analysis	3.32	3.00	1.51	-0.206	-0.478	<.001
	Decision-making based on internal standards	2.22	2.00	1.36	0.497	-0.050	<.001
	Rational approach to problem-solving	3.52	4.00	1.54	-0.266	-0.730	<.001
	Integrated strategies: deep processing + critical analysis	5.65	6.00	2.09	-0.308	-0.523	<.001
	Integrated strategies: non-critical evaluation based on intuition	8.04	8.00	1.67	-0.081	-0.441	<.001
	Integrated strategies: deep processing + outcome evaluation	5.47	5.50	2.21	-0.091	-0.202	0.007

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	Integrated strategies: rational approach + internal standards	4.45	4.00	2.17	0.323	-0.070	0.003
	Overall level	9.08	9.00	3.04	0.202	-0.111	0.174
Thorndike Test	Total Score	20.0	20.0	4.73	-2.27	7.01	<.001
Monitoring Learning Effectiveness	Motivational Scale	1.60	1.60	1.01	-1.43	3.10	<.001
	Operational Scale	1.60	1.60	0.86	-0.78	1.23	<.001
	Informational Scale	1.80	1.80	0.91	-1.01	1.50	<.001
	Regulatory Scale	1.20	1.20	1.05	-0.60	-0.17	<.001
	Overall Effectiveness Coefficient	1.58	1.58	0.84	-1.08	2.11	<.001

The analysis of statistical indicators across all applied methods indicates that the data distribution approximates normality. The skewness (Sk) and kurtosis (Ku) values for most scales are close to zero, and the results of the Shapiro–Wilk test (SW-p) confirm the absence of statistically significant deviations from normality. This allows us to conclude that all methods are suitable for further parametric analysis, and the presented data can be considered a coherent sample for the comprehensive assessment of metacognitive control and clip thinking (see Table 1 for details).

To verify the fit of the proposed factor model, all applied methods underwent confirmatory factor analysis (CFA). Model evaluation was conducted using standard fit indices, including the χ^2 test, the Comparative Fit Index (CFI), the Tucker–Lewis Index (TLI), and the Root Mean Square Error of Approximation (RMSEA). The results demonstrated that the factor structures of each method align with the empirical model, confirming their suitability for further comprehensive analysis of metacognitive control and learning strategies.

We now proceed to a qualitative analysis of the obtained data. According to the results of the "Clip Thinking Diagnostics" test by M.B. Litvinova, a tendency toward clip thinking was observed in 56% of students. This cognitive feature primarily manifests in visual and fragmented information perception, rapid task switching, and high emotional engagement, combined with a reduced re-

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liance on rote memorization and a preference for ready-made informational resources. Such a thinking style facilitates effective assimilation of material through diagrams, infographics, videos, and short text fragments, making students more adaptable to blended learning formats and digital platforms.

However, this group also demonstrates increased fatigue and decreased motivation under monotonous or low-interactive learning conditions. These findings highlight the necessity of considering students' cognitive characteristics when designing educational activities – particularly through multimedia and interactive tasks, alternating modes of information delivery, and active engagement in learning. The results not only reveal the prevalence of clip thinking but also provide an empirical basis for optimizing the educational process according to students' cognitive styles, fostering metacognitive control, self-regulation, and effective cognitive activity.

The following analysis focuses on results obtained using O.V. Savchenko's authorial method ***"Reflective Skills (Cognitive Level)"***.

Figure 1. **Percentage distribution of respondents by levels of development across each scale according to O.V. Savchenko's method "Reflective Skills (Cognitive Level)"**

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The diagram shows that higher education students predominantly demonstrate an average level of cognitive-level reflective skills. Considering the features of each scale, which reveal different aspects of these skills, their generalized manifestations among respondents are summarized below. This approach conveys the essence of reflective skills without overloading the text with numerical details.

Students show a moderate ability to articulate their reasoning and select appropriate problem-solving strategies: they are aware of the reasons behind their actions, though in complex or unfamiliar situations, these skills may be applied inconsistently. The fragmented perception typical of clip thinking complicates the reflective fixation and verbalization of strategies, limiting the depth of self-explanation.

Respondents maintain basic emotional regulation and confidence; however, superficial information processing and impulsivity reduce the effectiveness of integrating emotional cues into cognitive control. In their reflective considerations, they assess causes of failures and approaches used, enabling partial self-regulation and anticipation of actions, although stable application of these skills in novel or complex situations requires further practice.

When planning and verifying decisions, students organize problem-solving processes, monitor task sequences, and analyze information. Superficial perception and impulsivity limit strategic thinking depth. The ability to analyze outcomes and form judgments enables them to distance themselves from emotional reactions and evaluate processes objectively, though clip thinking may affect flexibility of evaluation and decision-making quality.

In blended learning environments, this manifests as a combination of autonomy and the need for support: more advanced students consciously integrate knowledge and adjust their actions, while others benefit from additional scaffolding, opportunities to discuss their progress, and feedback. This profile in-

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dicates potential for further development of reflective skills and for building more stable learning autonomy.

Subsequently, the results obtained through O.V. Savchenko's method ***"Reflective Skills (Metacognitive Level)"*** are considered.

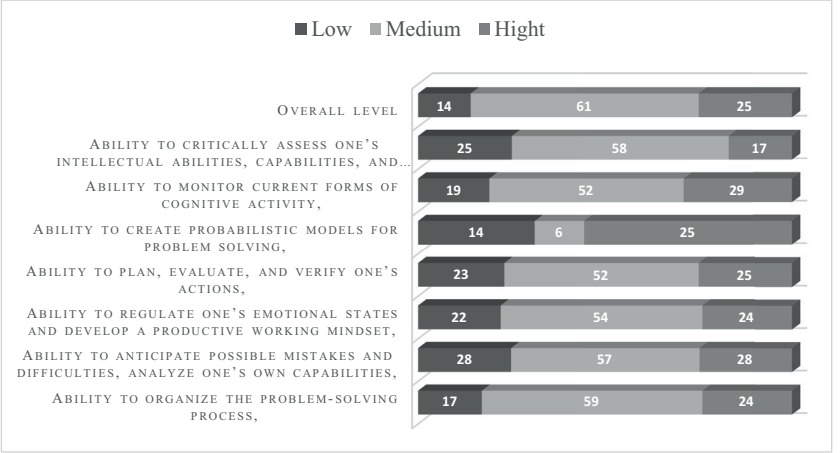

Figure 2. **Percentage distribution of respondents by levels of development across each scale according to O.V. Savchenko's method "Reflective Skills (Metacognitive Level)"**

Analysis of the diagram reveals that respondents primarily demonstrate an average level of metacognitive-level reflective skills. This indicates basic abilities to consciously organize one's activity and control problem-solving processes, although certain aspects still require enhancement.

Students are partially capable of structuring problem-solving, determining action sequences, and identifying key task aspects. They demonstrate basic skills in assessing resources and adjusting strategies, which enables systematic information use and attention management, even under the fragmented perception characteristic of clip thinking. These skills support anticipating potential difficulties: respondents partly foresee prob-

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lematic situations, plan actions considering available resources, and perform limited self-analysis. Despite risks of superficial processing due to clip thinking, their metacognitive control allows timely correction of strategies while maintaining goal orientation.

An extension of these abilities is the capacity to regulate emotions and develop a productive working mindset. Respondents can sustain motivation, control emotional reactions, and adapt behavior to changing conditions, ensuring effective task performance under high-speed, fragmented information flows. Concurrently, they develop the ability to plan, assess, and verify actions, demonstrating partial capacity to evaluate alternatives, introduce corrections, and maintain a balance between cognitive flexibility and outcome control.

While clip thinking may affect the consistency and depth of self-analysis, it can also serve as a resource for rapid information gathering and adaptive behavior. In blended learning, this is reflected when students plan task completion across online and in-class activities, partially evaluate strategies, and make adjustments upon noticing difficulties or mismatches between results and expectations. They thus demonstrate the ability to transform flexibility and rapid perception into tools for learning organization, while occasionally requiring guidance or feedback for more consistent application of reflective skills.

The next part of the analysis focuses on O.V. Savchenko's method ***"Reflective Skills (Personal Level)"***.

Results indicate that students demonstrate a moderate level of reflective skills, with basic abilities to organize understanding of problem-conflict situations, control external conditions, and mobilize internal resources. Respondents exhibit moderate flexibility and sufficient emotional stability, supporting effective behavioral organization, though occasional inconsistencies between internal intentions and external demands are observed.

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Students can define goals, establish causal relationships, and plan activities, though they rarely predict all potential consequences. They recognize intentions and emotions, reassess past actions, and engage in internal dialogue, though this process remains partly unsystematic. Emerging strategy adjustment enhances self-analysis and allows viewing problems from alternative perspectives.

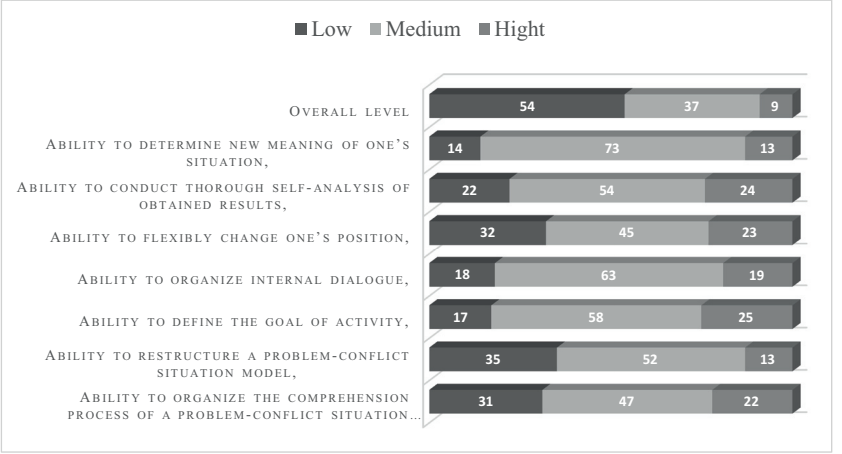

Figure 3. **Percentage distribution of respondents by levels of development across each scale according to O.V. Savchenko's method "Reflective Skills (Personal Level)"**

Overall, students can analyze situations, compare possible actions, and align goals with personal values, ensuring satisfactory self-regulation and adaptability. At the metacognitive level, these skills enable conscious planning, monitoring, and strategy adjustment. In blended learning, this manifests as time management between online and in-person study, evaluation of intermediate results, and flexible adaptation of strategies, promoting self-regulation, learning efficiency, and autonomy.

Finally, the results obtained through the method **"Cognitive Strategies for Problem Solving"** (by O.V. Savchenko and M.Yu. Makiienko) are presented.

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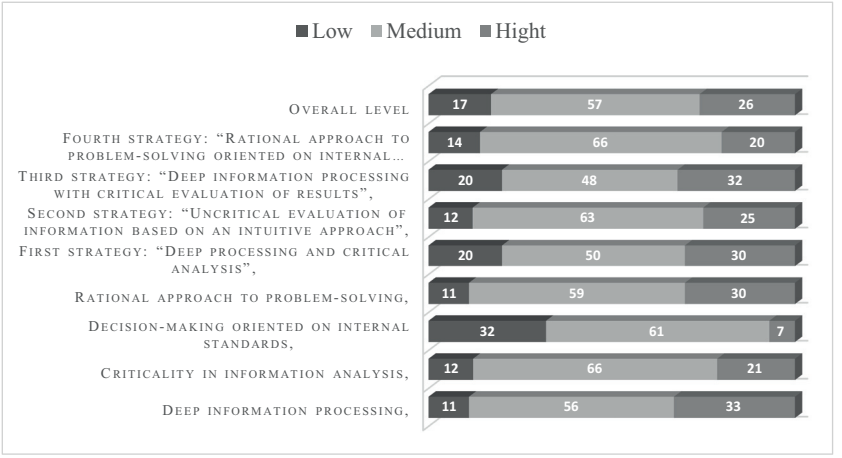

Figure 4. **Percentage distribution of respondents by levels of development across each scale according to the method "Cognitive Strategies for Problem Solving" (O.V. Savchenko, M.Yu. Makiienko).**

Findings reveal a predominance of medium-level development of reflective strategies in solving complex problems. Students analyze their activities, assess task conditions, and select appropriate solutions, relying on prior experience and partial emotional control. Clip-like thinking – fragmentary information processing and impulsive decisions – underscores the need to develop systematic analysis and planning strategies.

Critical analysis and rational approaches help counteract limitations of clip thinking, fostering structured reasoning and autonomy. Intuitive strategies, though sometimes uncritical, support flexibility and self-regulation. The integration of analytical and intuitive approaches reflects the gradual development of metacognitive control, particularly self-correction, conscious planning, and adaptive problem-solving.

In blended learning, cognitive strategies are applied through integrated planning, monitoring, and correction: students as-

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sess intermediate results, refine approaches, and select effective methods to achieve learning goals, enhancing adaptability and independent thinking.

We presented the results obtained through ***Thorndike's Test***, which illustrate the overall development of students' skills in reading comprehension, attention concentration, and the ability to identify key information from text. The study revealed that most participants demonstrate low levels of these skills (58%), indicating limited cognitive flexibility and analytical activity. Additionally, students exhibited superficial information processing, difficulties in maintaining attention over extended periods, and fragmentary memorization of facts without establishing meaningful connections.

These findings highlight the necessity for pedagogical support aimed at developing metacognitive control, which facilitates deeper understanding of material, identification of essential information, anticipation of learning outcomes, and autonomous regulation of the learning process. Particularly important is the formation of strategies to counteract the negative effects of clip-like thinking, transforming its potential limitations into a resource for rapid and critical information processing.

The analysis further considers the results obtained using the method ***"Monitoring the Effectiveness of Students' Learning Activities"*** (I.S. Todorova).

Examination of these results demonstrates the overall level of development of metacognitive control components among students. Most participants rated their own learning effectiveness at a high level (51%), reflecting satisfaction with the learning process, awareness of personal responsibility for outcomes, and the development of skills in planning, monitoring, and self-regulation.

In the context of blended learning, which combines face-to-face and online formats, these skills are particularly significant, as they require independence, cognitive flexibility, and the abi-

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lity to adapt to diverse methods of information acquisition. Clip-like thinking, while potentially limiting the depth of information processing, can serve as a resource for rapid data assimilation when supported by developed metacognitive strategies that ensure systematic and coherent understanding.

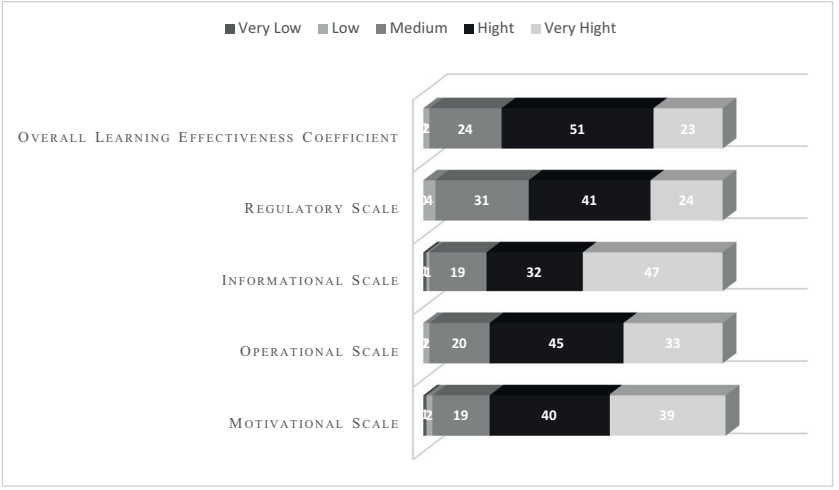

Figure 5. **Percentage distribution of respondents by levels of development across each scale according to the method "Monitoring the Effectiveness of Students' Learning Activities" (I.S. Todorova).**

The motivational subsystem was predominantly characterized by a high level (40%), indicating students' goal-oriented behavior, a desire for self-improvement, and readiness to overcome challenges. Such motivation provides a foundation for developing strategies of planning, analysis, and reflection on one's own learning process.

Similarly, the operational subsystem showed a high level of development (45%), reflecting students' ability to organize learning actions, structure task execution, and analyze errors. The development of operational skills contributes to learning

autonomy, effective strategy selection, and adaptability within the blended learning environment.

The informational subsystem also demonstrated predominance at a high level (47%), indicating effective perception, systematization, and application of learning materials, as well as the development of interdisciplinary connections and critical thinking. This competence ensures comprehensive understanding of educational content and conscious management of the cognitive process.

The regulatory subsystem showed a high level (41%), highlighting students' capacity to maintain emotional balance, manage workload, and sustain performance under stress. Developed self-regulation and control over one's own state enable effective organization of learning activities and achievement of objectives even in challenging situations.

In summary, the results indicate that students possess high levels of self-awareness, motivation, and organization in learning activities. These findings suggest positive development of metacognitive control and the ability to transform the speed and fragmentary nature of clip-like information processing into effective analysis, critical evaluation, and conscious, in-depth learning.

The subsequent section presents a table 2 summarizing the correlations between key study scales, reflecting the strength and direction of the main relationships among metacognitive control, learning strategies, motivation, and cognitive characteristics of students.

We would like to note that the table presents the most significant and statistically meaningful correlation coefficients ($r \geq 0.35$), which have leading theoretical and practical relevance for constructing a model of metacognitive control in a blended learning environment. Other identified correlations, which are not included in the table, were also analyzed and considered within the context of the study; a detailed description will be provided in the dissertation research.

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Table 2

Statistically Significant Correlation Coefficients among the Research Scales

№	Indicator Pair	ρ	Significance Level	Interpretation
1	Learning Effectiveness ↔ Motivational Scale	+0.813	<.001	Very strong positive correlation; high motivation contributes to learning effectiveness.
2	Learning Effectiveness ↔ Operational Scale	+0.827	<.001	Very strong positive correlation; practical skills are critically important.
3	Learning Effectiveness ↔ Informational Scale	+0.804	<.001	Very strong positive correlation.
4	Learning Effectiveness ↔ Regulatory Scale	+0.894	<.001	Strongest positive correlation; internal self-regulation determines learning effectiveness.
5	Reflective Skills (Metacognitive Level) ↔ Reflective Skills (Personal Level)	+0.531	<.001	Moderate-to-strong positive correlation; personal-level skills are closely linked to metacognitive skills.
6	Third Strategy "Deep Information Processing with Critical Evaluation of Results" ↔ First Strategy "Deep Processing and Critical Analysis"	+0.537	<.001	Moderate-to-strong positive correlation between deep processing strategies.
7	Overall Level of Cognitive Tasks ↔ First Strategy "Deep Processing and Critical Analysis"	+0.638	<.001	Strong positive correlation; applying the strategy improves performance in cognitive tasks.
8	Overall Level of Cognitive Tasks ↔ Third Strategy "Deep Information Processing with Critical Evaluation of Results"	+0.734	<.001	Strong positive correlation; critical evaluation of results supports better task performance.

The analysis revealed that higher education students' academic performance is strongly linked to motivational, operational, informational, and regulatory components. The strongest correlation was with the regulatory scale ($\rho = 0.894$, $p < .001$), highlighting the central role of self-regulation and the ability to organize learning activities. High correlations with motivational ($\rho = 0.813$), operational ($\rho = 0.827$), and informational ($\rho = 0.804$) scales confirm that effective learning requires motivation, practical skills, and comprehensive information processing, enabling students to plan, monitor, and adapt to complex tasks.

Metacognitive reflexive skills showed a moderate-to-strong correlation with the personal-level scale ($\rho = 0.531$), emphasizing the importance of self-awareness and reflection. Students who analyze successes and mistakes regulate learning more effectively and adjust strategies accordingly.

Significant links were also observed among strategic learning approaches: "Deep information processing with critical evaluation" correlated with "Deep processing and critical analysis" ($\rho = 0.537$), and both were positively associated with overall cognitive performance ($\rho = 0.638$ and $\rho = 0.734$). This suggests that deep processing strategies enhance task performance, critical thinking, and informed decision-making.

In blended learning, these findings highlight the need to integrate internal regulation, reflexive skills, motivation, operational abilities, and deep processing strategies. Such an approach allows students to combine online and offline formats effectively, adapt to fragmented information flows, and achieve structured, conscious, and productive learning.

Conclusions

Based on the diagnostic results, a profile of the modern higher education student can be formulated. The contemporary student is characterized by a combination of high motivation, organized learning activities, and a tendency toward clip thinking. This means they exhibit fragmented and visually orien-

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ted information perception, rapidly switch between tasks, and are highly emotionally engaged in the learning process. Such a thinking style supports effective material assimilation through diagrams, videos, infographics, and short text fragments but limits depth of analysis, attention concentration, and the ability to memorize systematically.

At the same time, the student is capable of planning their own activities, defining the sequence of actions, adjusting strategies, and anticipating potential difficulties. They can evaluate the results of their actions, maintain emotional balance, and adapt to changing learning conditions, which ensures partial autonomy and effectiveness in a blended educational environment. Nevertheless, superficial information perception, impulsivity, and fragmented thinking limit the consistency and depth of applying these skills, especially in complex or novel situations.

The student demonstrates the ability for deep information processing, critical analysis, and rational planning of actions, although occasional signs of superficial processing and a tendency toward intuitive decisions may appear. They combine analytical and intuitive approaches, assess their actions, adjust strategies, and consider potential consequences, which contributes to the development of cognitive flexibility and self-regulation skills.

Additionally, a high level of motivation, organization, and learning efficiency is observed. The student actively integrates knowledge, systematizes information, and maintains emotional stability during learning. The combination of these characteristics enables effective work in a blended environment, adaptation to digital formats, and the transformation of the speed and fragmentariness of perception inherent in clip thinking into a resource for deep and conscious learning.

In light of these findings, a special program is planned to enhance metacognitive skills, increase concentration, cognitive flexibility, and the ability for deep analysis and planning of learning activities. All details and results of the program implementation will be presented in subsequent publications.

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Шевченко Тетяна. Прояви кліпового мислення та метакогнітивного контролю у здобувачів вищої освіти: емпіричний аналіз у змішаному форматі навчання.

Мета. *Стаття спрямована на виявлення особливостей проявів метакогнітивного контролю та кліпового мислення у здобувачів вищої освіти у змішаному форматі навчання, оцінку їх взаємозв'язку та впливу на ефективність навчальної діяльності.*

Методи. *Емпіричне дослідження проведено на вибірці 132 здобувачів вищої освіти із застосуванням стандартизованих методик для оцінки рефлексивних умінь, когнітивних стратегій та ефективності навчальної діяльності. Обробка та аналіз даних здійснювалися із застосуванням статистичних методів, факторного аналізу та оцінки кореляційних зв'язків, що забезпечило достовірність результатів.*

Результати дослідження. *Встановлено, що більшості досліджуваних властиве кліпове мислення, недостатній рівень розвиненості уваги, концентрації та здатності виокремлювати ключову інформацію з тексту. Рефлексивні вміння здобувачів вищої освіти на когнітивному, особистісному та метакогнітивному рівнях, а також стратегії рефлексивної активності, сформовані недостатньо. Водночас здобувачі оцінюють власну навчальну ефективність на високому рівні. Виявлено суттєві кореляційні зв'язки між навчальною ефективністю та рівнем саморегуляції, мотивації, операційних навичок та здатністю ефективно обробляти інформацію. Рефлексивні вміння та стратегії глибинної обробки інформації сприяють підвищенню результативності завдань і розвитку критичного мислення, що підкреслює важливість комплексного підходу у змішаному навчанні.*

Висновок. *Сформовано профіль сучасного здобувача вищої освіти: відзначається висока мотивація, організованість та здатність до саморегуляції, активно планується власна діяльність і оцінюються результати дій. Водночас спостерігається схильність до кліпового мислення, що сприяє швидкому сприйняттю інформації, але обмежує концентрацію уваги та глибину аналізу.*

Ключові слова: *метакогнітивний контроль, кліпове мислення, рефлексивні вміння, когнітивні стратегії, змішане навчання, емпіричне дослідження.*

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