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DEVELOPMENT OF STUDENTS' INDEPENDENT THINKING
IN THE CONTEXT OF TRANSFORMATIVE LEARNING

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LIST OF ABBREVIATIONS

IndT – Independent thinking
TL – Transformative learning
PTL – Phases of transformative learning
PM DITTL – Pedagogical Model for the development of students' independent thinking in the context of transformative learning
MC DITTL – Methodological Construct for the development of students' independent thinking in the context of transformative learning
PA – Personal autonomy
ES – Experimental sample
IT – Information technologies
EG – Experimental group
CG – Control group
LCP – Learner-Centered Psychopedagogy
SPU “Ion Creangă” in Chişinău – “Ion Creangă” State Pedagogical University of Chişinău
TSU – Tiraspol State University
FPMIT – Faculty of Physics, Mathematics and Information Technologies
PA Questionnaire – Personal Autonomy Questionnaire

CONCEPTUAL FRAMEWORK OF THE RESEARCH

Relevance and significance of the research topic. Contemporary society experiences a rapid pace of transformation, demanding continuous personal and professional development. The labor market requires competitive specialists who are independent in thought and prompt in action, capable of viewing matters from diverse perspectives. A defining valuable asset of professionalism is the mode of thinking possessed by the developing personality. Currently, independent thinking is indispensable across virtually all spheres of activity: economic [38, pp. 12-13], educational, legal, medical [29, p. 7], IT, engineering, construction, etc. The development of independent thinking has become increasingly salient, with growing interest justified by the ambiguity of theoretical-methodological foundations and the insufficient elucidation of specific psychological mechanisms and strategies. The analysis of educational policy documents such as the “OECD Learning Compass 2030” [36], the Development Strategy “Education 2030” (for 2021-2030) [39], the Education Code of the Republic of Moldova [32], the National Development Strategy “Moldova 2030” [40], the National Qualifications Framework of the Republic of Moldova [31], and the Reference Framework of the National Curriculum [30] highlights the ongoing orientation of educational systems in Europe and the Republic of Moldova toward emphasizing the enhancement of individual potential, fostering a *free, independent* personality open to change, creative and *autonomous*, prompt in action and *thought*, and equipped with initiative. However, the consolidation of these qualities into personal performance cannot occur without engaging independent thinking, which requires specific nurturing contexts to develop and manifest. Under these conditions, an optimal framework for stimulating this mode of thinking is transformative learning, which, by its very essence, encourages students to become active agents of their own formation through the full realization of independent thinking.

Description of the state of the art in the research field. Independent thinking remains a modestly addressed subject in local specialized research within pedagogy, psychology, and philosophy. *Internationally*, fostering independent thinking has garnered the attention of numerous researchers, examined from varied theoretical and praxiological standpoints. Significant contributions have been made by Sh. Presley [28] through the study of this phenomenon and the establishment of the *National Resources for Independent Thinking* (USA); B. Potter, who focused on assessment by developing the specific questionnaire “*How independent thinking are you?*” [37]; I. Gilbert [24], oriented toward transposing the concept into educational practice through “*Independent Thinking*”; and A. Loh [34], who identified the essential qualities of an independent thinker, including perseverance, self-confidence, determination, motivation, and self-awareness.

Possessing these qualities stimulates innovative thinking, supporting learners in demonstrating autonomy in action and discourse. In *Romanian academic discourse*, this issue is partially advanced by I. Neacșu [16], who substantiates the interdependence between academic learning and the need to develop an autonomous personality (capable of independence in thinking and action), and by S. Costreie [33], who emphasizes the vital importance of cultivating independent thinking in contemporary education. In the *Republic of Moldova*, developing students' independent thinking has been addressed tangentially. Notable national contributions include studies by V. Botnari [5; 7; 10], who conceptualized and expanded IndT as a specialized type of cognition, as well as D. Antoci [2], who situated independence among foundational personality values, emphasizing critical and independent cognitive development. Analyzing national and international scholarly perspectives reveals diverse views on fostering IndT, underscoring the decisive role of learning, particularly TL. Nonetheless, dedicated investigations into specialized pedagogical modalities for its development remain sparse, and research into the specific valences of transformative learning remains modest and tangential. Consequently, there is an evident void in research addressing the cultivation of independent thinking specifically within the context of TL.

Based on the above, several *contradictions* emerge between: the new demands placed on students within a continuously modernizing educational system requiring active engagement of independent thinking; the substantial time allocated to independent study in current university curricula requiring rigorous independent cognitive engagement, contrasted with the lack of curricular resources offering adequate methodological guidance; the scarcity of studies elucidating the formative potential of distinct learning paradigms, particularly transformative learning, in developing students' independent thinking; and the divergence between labor market demands for independent-thinking graduates and the persistence of higher-education pedagogical approaches that place minimal emphasis on fostering cognitive independence. This constellation of contradictions crystallized the core **research problem**: What are the pedagogical premises of transformative learning for developing students' independent thinking?

The purpose of our research consists in substantiating, developing, and experimentally validating the Pedagogical Model for the development of students' independent thinking in the context of transformative learning.

Research objectives: 1) substantiating the essence of IndT as a specific type of thinking; 2) delimiting the valences of TL in developing the independent thinking of pre-service students; 3) ascertaining the contexts and baseline levels of students' independent thinking; 4) developing and experimentally validating the PM DITTL through the implementation of the related methodological construct; 5) deducing conclusions and formulating practical recommendations.

Research hypothesis. Students' independent thinking will develop progressively and significantly if: a Pedagogical Model for developing students' independent thinking in transformative learning contexts, embedded in the MC DITTL, is elaborated and implemented; the methodological construct prioritizes core cognitive, metacognitive, compensatory, social, and affective strategies within the PTL; and formative actions generated by the construct are governed by normative principles and rules derived from constructivist education.

Theoretical framework of the research comprises: the constructivist paradigm; investigations into independent thinking (B. Potter [27; 37], Sh. Presley [28], I. Gilbert [24], V. Botnari [5; 7; 10]); the theory of transformative learning (J. Mezirow [25; 26; 35], P. Cranton [22], E. W. Taylor [26], K. Illeris [15], L. Şoitu [20], L. C. Pavel [17; 20], M. Voinea [41], V. Botnari [3; 4; 5; 6; 9; 11], D. Stah [11], L. Franţuzan [13]).

Research methodology derives from the purpose, objectives, and research hypotheses, comprising: *theoretical methods* – analysis, synthesis, comparison, generalization, and systematization of scientific concepts; *praxiological methods* – observation, psychopedagogical experimentation, questioning, testing, and analysis of student work artifacts; *statistical-mathematical methods* for quantitative and qualitative data analysis – independent and paired-samples t-tests, Pearson correlation coefficient, Mann–Whitney U test, Wilcoxon signed-rank test, Kolmogorov–Smirnov and Shapiro–Wilk normality tests, and Cronbach's alpha reliability coefficient (α).

Scientific novelty and originality are supported by: clarifying and establishing the genesis of the concepts of independent thinking and transformative learning; identifying and analyzing scientific theories, approaches, and orientations to conceptualize independent thinking; determining and substantiating the principles of constructivist education necessary for developing students' independent thinking; justifying and developing performance and quality indicators for evaluating the progress of IndT; and demonstrating the effectiveness of transformative learning valences transposed into the Pedagogical Model for developing students' independent thinking in transformative learning contexts, elaborated and experimentally validated through the implementation of the corresponding methodological construct.

The important scientific problem solved in the research consists in the theoretical and praxiological substantiation of the functionality of the pedagogical model through the implementation of the methodological construct for the development of students' independent thinking in transformative learning contexts.

Theoretical significance of the research consists in: theoretically justifying the concepts of independent thinking and transformative learning; substantiating and elaborating the

Pedagogical Model for developing students' independent thinking in the context of transformative learning; determining the system of principles (priority of constructing “knowledge”, autonomy and individualization, experiential and contextual learning, collaborative learning), as well as identifying the psychopedagogical conditions required for fostering students' IndT.

Practical value of the research materialized in: developing and validating the Pedagogical Model for developing students' independent thinking in the context of transformative learning embedded in the Methodological Construct, which demonstrated its efficacy in fostering students' independent thinking. Concurrently, a set of referential criteria for evaluating the progress of IndT based on the functional structure of cognition was formulated. An additional applicative contribution lies in adapting, elaborating, and validating diagnostic tools for independent thinking. The research confirmed that all structural components of the PM DITTL can be successfully implemented in Cycle I – Bachelor's degree, including within the university course “*Learner-Centered Psychopedagogy*”.

Approval and implementation of research results. The results were discussed and approved during the meetings and methodological seminars of the Department of Psychopedagogy and Preschool Education (TSU, Chişinău, 2020–2022) and presented at more than 16 national and international scientific events (scientific conferences, congresses, symposia, and workshops) held between 2020 and 2026. The experimental investigation was initiated at TSU and continued at SPU “Ion Creangă” in Chişinău during the 2020–2024 academic years; the experimental sample comprised 132 students from the Faculties of Biology and Chemistry, FPMIT, Educational Sciences, and Psychology and Special Psychopedagogy (who subsequently constituted the experimental and control groups) and 42 university faculty members involved exclusively in the ascertainment stage.

Structure of the doctoral thesis. The thesis comprises: annotations in Romanian and English, an introduction, 3 chapters, general conclusions and recommendations, a bibliography of 165 titles, 33 appendices, spanning 136 pages of core text, including 20 tables and 17 figures.

Publications on the topic of the thesis: The research findings have been published in 27 scientific papers: including 1 course textbook; 6 articles in international and national scientific journals; 7 articles in international conference proceedings; and 13 articles in national conference proceedings.

Keywords: thinking, independent thinking, independent thinker, learning, transformative learning, phases of transformative learning, constructivist paradigm, students.

CONTENT OF THE THESIS

The **introduction** highlights the relevance and timeliness of the research topic, defines the scientific problem and the main directions of approach, specifies the purpose and objectives of the investigation, as well as the theoretical and practical value of the conducted study.

Chapter 1. Theoretical Foundations of the Development of Students' Independent Thinking in the Context of Transformative Learning addresses the issue of IndT both in general terms and in relation to its development within the context of TL, highlighting the interdependence among the cognitive, reflective, and formative dimensions of the educational process. The analysis is grounded in the principal theories and conceptions formulated by specialists in the fields of psychology, pedagogy, and philosophy. The theoretical approach proceeds from defining IndT as a specific type of thinking that constitutes the core of cognitive autonomy, of critical and reflective capacity, as well as a prerequisite for the formation of competences necessary for TL. In accordance with the principles of constructivist education, IndT contributes to structuring autonomous consciousness, developing cognitive self-efficacy, and consolidating the reflective academic identity of the future specialist.

Building upon the delimitation of the fundamental qualities of thinking according to T. Buzdugan [12] and on the classifications of thinking typology proposed by M. Zlate [21], we argue that the predominance of a specific quality such as flexibility, critical spirit, breadth, quickness, or independence determines the corresponding type of thinking (flexible, critical, quick, or independent). Although such a symmetrical classification is less frequently addressed in the specialized literature, it is observed that in domestic educational policy documents, such as the Education Code of the Republic of Moldova [32], the Reference Framework of the National Curriculum [30, pp. 18–26], as well as in the research of foreign authors, these concepts are frequently employed.

Researcher Sh. Presley [28] defines independent thinking as the process characterized by the ability to think beyond the norms established and prescribed by others, through a tendency toward nonconformism, correlated with evaluating information in relation to one's own convictions. This perspective reflects the subject's ability to construct an intellectual trajectory of their own, unconditioned by external validation. The essence of IndT resides in freedom of opinion grounded in arguments, ensuring decision-making certainty and constituting the natural prerequisite of critical thinking.

Capitalizing on the four-dimensional model proposed by M. Golu [14, p. 445], the functionality of IndT was structured across four essential blocks: *the operations block* (critical

analysis, creative synthesis, essential abstraction and autonomous generalization, reflective comparison); *the contents block* (utilizing one's own notions, issuing independent judgments, and developing personal logical reasoning); *the products block* (elaborating original ideas, formulating personal hypotheses and well-reasoned solutions, innovative concepts, and the presence of alternative perspectives); and *the relations block* (intra- and inter-systemic connections operations – contents – products), governed by internal criteria and reflective self-regulation. This reconfiguration of cognitive blocks constitutes the theoretical and praxiological foundation for identifying didactic mechanisms and strategies focused on developing students' IndT. The mechanisms of IndT are mediated by logical operations such as analysis, synthesis, comparison, negation, and by the synergistic articulation of divergent thinking, oriented toward generating alternative solutions, with convergent thinking, responsible for structuring and validating them. From a neuropsychological perspective, independent thinking represents a complex, integrated, and interdisciplinary process that develops through the interaction between brain structures, neural networks, cognitive processes, and emotional regulation. The comprehension of these neuropsychological mechanisms provides a solid foundation for promoting cognitive autonomy in education. The brain's capacity to remodel itself through experience and learning makes possible the continuous development of IndT [8, p. 30]. Creating an educational environment centered on exploration, debate, and interactive didactic strategies stimulates these neural circuits associated with creativity and decision-making flexibility.

Transformative learning constitutes a conducive framework for developing IndT and provides constructive circumstances for expanding new forms of knowledge. The main Western researchers who substantiated the concept are J. Mezirow [25; 26; 35], E. W. Taylor [26], P. Cranton [22], J. M. Dirkx [23], and V. Marsick [35]. In the Romanian scientific space, significant milestones are provided by researchers such as L. Șoitu [20], L. C. Pavel [17; 20], and M. Voinea [41], while in the national academic context, noteworthy studies are conducted by V. Botnari [3; 4; 5; 6; 9; 11], D. Stah [11], and L. Franțuzan [13].

J. Mezirow defines transformative learning as “the process by which the subject transforms already formed frames of reference ... to make them more inclusive, discriminating, open, and reflective, so that they may generate beliefs and opinions that would prove more true or justifiable in guiding actions. TL involves participating in the constructive discourse of others' experiences to assess the reasoning that justifies these hypothetical opinions and conditions decisions for action based on anticipated acquisitions” [11, p. 60]. Subsequently, the author systematized this process into ten phases undergone to transform one's own beliefs and reasoning: 1) a disorienting dilemma; 2) self-examination accompanied by affective feelings generated by the awareness of non-

knowing; 3) critical evaluation of one's own views; 4) recognition that others have undergone a similar change, the process being accompanied by self-dissatisfaction; 5) exploration of options for new roles and actions; 6) planning a series of actions; 7) acquiring values and developing skills for implementing the proposed plans; 8) trying new roles; 9) consolidating competence and confidence in exercising new roles and relationships; 10) reintegration into personal life based on the conditions generated by the new perspective. The successive navigation of PTL ensures a profound restructuring of the frame of reference, namely of the system of values and beliefs that guide the subject's perceptions and actions. As a result, the student develops reflective and responsible IndT, capable of sustaining ethical and well-reasoned decisions, which translates into educational and professional contexts through an enhanced capacity for adaptation, for integrating multiple perspectives, and for initiating transformation-oriented actions.

P. Cranton and C. Hoggan [22] maintain that TL theory is grounded in constructivism, having roots in humanism and social critique theory. Methodologically, the constructivist paradigm offers a series of fundamental benchmarks that enable solving the addressed problem, generating cognitive, metacognitive, compensatory, social, and affective strategies applicable across different stages of PTL, with a significant impact on the development of IndT. Integrating metacognitive strategies, such as planning, monitoring, and self-regulation, offers learners the opportunity to improve their learning activity and fully exercise independent, critical, and reflective thinking. Through the synergistic combination of scientific findings from neuroscience with metacognitive strategies and educational principles, learning environments can be conceived in which TL contexts become prioritized to support both cognitive and emotional progress, preparing learners for the challenges of a globalized and continuously changing society [8, p. 30]. The theoretical synthesis achieved demonstrates that IndT does not constitute a spontaneous acquisition, but rather a dynamic structure formed through the reflective valorization of TL, providing the conceptual foundation for the subsequent experimental endeavor.

Chapter 2. Experimental Approach to the Development of Students' IndT in the Context of TL integrates the methodological foundations and the results of the ascertainment research regarding the baseline level of manifestation of students' IndT. This chapter includes the description of the experimental design, the presentation of the assessment instruments for the development level of IndT, and the analysis of the degree of students' involvement in TL contexts. At the same time, data concerning the initial cognitive and reflective acquisitions of participants are examined, as well as the modalities of valorizing TL experiences within the university environment. In accordance with the purpose of the ascertainment experiment, the following objectives were formulated: 1) identifying the sample and selecting the research methods; 2)

determining the referential criteria for evaluating the progress of IndT; 3) identifying and determining the experimental diagnostic inventory for assessing the level of manifestation of IndT among students; 4) developing and characterizing the assessment instruments for the level of valorization and involvement of students in TL contexts; 5) ascertaining the baseline level of IndT development by learners; 6) analyzing the level of valorization and involvement of students in TL contexts; 7) determining the frequency of involving students in TL contexts by university academic faculty; 8) establishing and analyzing the specific operational approaches focused on developing students' IndT in the context of TL.

To achieve the first objective, focused on identifying the sample and establishing the research methodology, the following methods were employed: analysis, synthesis, comparison, generalization, testing, questioning, and psycho-pedagogical assessment tools, alongside the statistical processing and interpretation of quantitative, qualitative, and graphical data. These methods provided insight into the participants' cognitive profiles, outlining a clear baseline of the manifestation of IndT and determining students' degree of involvement in TL contexts. The ascertainment experiment was conducted on a sample comprising 132 students from TSU, currently SPU “Ion Creangă” in Chişinău, Cycle I – Bachelor, from the faculties: Education Sciences; Psychology and Special Psychopedagogy; FPMIT; Biology and Chemistry. In order to determine the frequency of engaging students in TL contexts, 42 university academic faculty members from the same educational institution were surveyed at the ascertainment stage.

Achieving the second objective aimed at determining the referential criteria for evaluating the progress of IndT. In developing these, the primary benchmark was grounded in the four-dimensional structure of thinking, capable of synergistically reflecting the components of independent thinking. The established referential criteria formed the basis for developing specific indicators of IndT, systematized across the four structural blocks: *the operations block* targets the manifestation of thinking operations in information processing (complex critical analyses, creative syntheses, essential abstraction and autonomous generalization, reflective comparison); *the contents block* reflects operating with specific logical forms (using one's own notions and concepts, formulating independent judgments, and constructing logical reasoning); *the products block* pursues the original and coherent elaboration of personal solutions (proposing original ideas and personal hypotheses, innovative perspectives, and logically argued decisions); *the relations block* targets the reflective and self-regulated integration of the elements of the thinking process (the connection among operations – contents – products into a coherent system, the manifestation of metacognition and internal consistency of reasoning). The evaluation of these indicators allowed the placement of subjects across three levels, defined by representative behaviors: *high level* – to

a very large extent; *average level* – moderate manifestation; *low level* – reduced or absent manifestation. These criteria served as a referential framework for the development and administration of assessment instruments at the ascertainment stage.

The next objective of the experiment focused on identifying and determining the experimental inventory for evaluating the manifestation level of independent thinking among students. Thus, three instruments were selected: 1. *The “How independent thinking are you?” Questionnaire* (adapted from B. Potter [37]). 2. *The Degree of Independence Test* (adapted from A. Karelin [42, pp. 403–404]). 3. *The PA Questionnaire* (developed by M. Albu [1, p. 4]). It should be noted that the aforementioned instruments do not comprehensively cover the dimensions specific to IndT, which justified the design and validation of three author-developed questionnaires: 1. *Questionnaire for assessing the level of IndT competence* (authors G. Repeșco, V. Botnari) [7]. 2. *Questionnaire focused on identifying the degree of students' involvement in TL situations* (authors G. Repeșco, V. Botnari) [18]. 3. *Questionnaire regarding university academic faculty's practices in organizing TL contexts* (authors G. Repeșco, V. Botnari) [19].

Another objective aimed at ascertaining the baseline level of learners' IndT development. Following the administration of the “*How independent thinking are you?*” questionnaire and the determination of the independent thinker type, the values illustrated in Figure 2.1 were obtained.

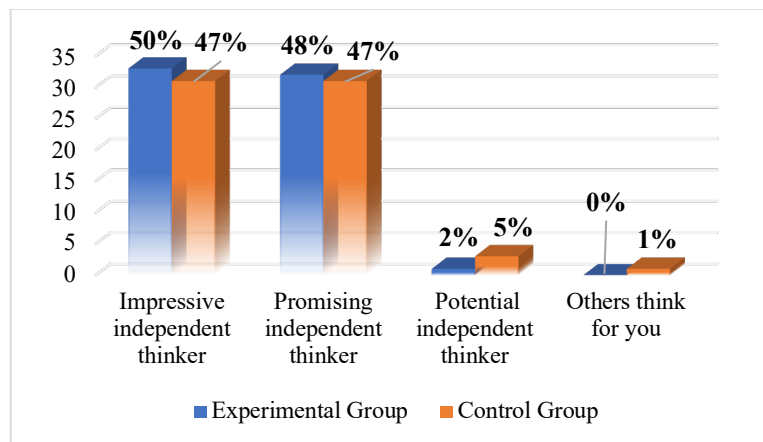


Figure 2.1. Distribution of subjects from EG and CG by level and type of independent thinker at the ascertainment stage

The presented data reveal that in the *impressive independent thinker* category, 50% of respondents from EG and 47% from CG were placed, demonstrating a remarkable ability to think independently and to detect or avoid informational manipulations and distortions. In the *promising independent thinker* category, 48% of respondents from EG and 47% from CG were recorded, highlighting critical thinking abilities, a tendency to avoid stereotypes, and readiness to contest authorities' opinions with sound arguments. In the case of the *potential independent thinker* category, 2% of respondents from EG and 5% from CG were assigned, being characterized by the

presence of significant potential to think independently, with the exercise of intellectual faculties being necessary in order to express one's own opinion with reasoned arguments. In the category *others think for you*, no subject was found in EG (0%) and only 1% in CG, reflecting the tendency to passively adopt external perspectives and a low resistance to suggestibility. The initial distribution attests to a pronounced homogeneity of the groups, concurrently confirming the presence of a favorable cognitive potential that can subsequently be valorized within the formative experiment.

The experimental approach continued with the administration of *the PA Questionnaire* (developed by M. Albu). For the interpretation of results, raw scores were standardized into T-scores. The distribution of subjects is reflected in Table 2.1.

Table 2.1. Results of the “PA Questionnaire” at the ascertainment stage

Scale Group (no. of subj.)	High scores T-score > 60		Average scores T-score 40–60		Low scores T-score < 40	
	EG	CG	EG	CG	EG	CG
Cognitive autonomy	12	13	46	44	8	9
Behavioral autonomy	12	12	46	45	8	9
Emotional autonomy	6	12	53	40	7	14
Value autonomy	12	8	43	48	11	10

The obtained data highlight the homogeneity of the groups and the dominance of the average level across all investigated dimensions, with shares between 61% and 80%. Cognitive autonomy being highly relevant to the addressed problem, the high level was achieved by 18% of students in EG versus 20% in CG, the average level by 70% in EG compared to 67% in CG, and the low level by 12% in EG and 14% in CG, confirming hesitations in adopting autonomous stances and a predisposition toward conformism.

Another instrument applied was the *Questionnaire for assessing the level of independent thinking competence*, with the results illustrated in Figure 2.2.

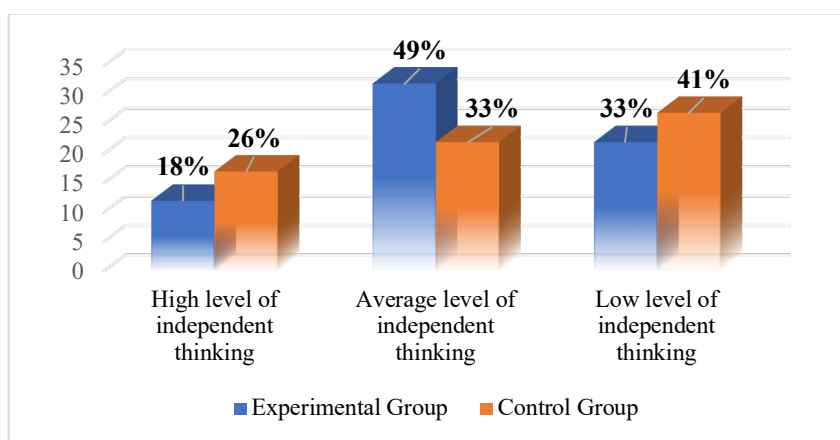


Figure 2.2. Distribution of results regarding the level of independent thinking competence among students in EG and CG at the ascertainment stage

According to the data presented in Figure 2.2, it is observed that in EG 18% of respondents record a high level of IndT, while in CG this share is 26%, being characterized by independence in thinking, critical spirit, capacity for strategic analysis, self-confidence, resistance to external conflicts or criticism. The average level accounts for 49% in EG and 33% in CG, representing subjects with potential and initiative, oriented toward flexibility and independent action, but who require monitoring and additional time in solving problem-situations. At the low level were placed 33% in EG and 41% in CG, manifesting vulnerability to external suggestions and difficulties in formulating firm personal stances. The overall mean obtained for the 132 subjects indicated the value of $M=90.54$, with a standard deviation of $SD=19.16$, confirming that over 70% of students are situated at average and low levels, which substantiates the necessity of a formative intervention focused on developing IndT. For a complementary analysis, the *Test for determining the degree of independence was utilized* (adapted from A. Karelin). The results revealed that 64% of respondents in EG and 59% in CG manifest a high level of independence, distinguishing themselves through decision-making autonomy, analytical certainty, and perseverance in achieving goals independently of external validation. At the average level were situated 36% of subjects in EG and 41% in CG, highlighting decision-making balance, stress resistance, and receptivity toward the opinions of others. The absence of subjects at the low level (0%) confirms the premise of a favorable attitudinal baseline in both groups.

The next objective within the ascertainment experiment aimed at analyzing the level of valorization and involvement of students in transformative learning contexts. The standardized scores (T-scores) obtained across the five scales are synthesized in Table 2.2.

Table 2.2. Data obtained based on the “Questionnaire focused on identifying the degree of students' involvement in transformative learning situations” at the ascertainment stage

Scale Group (no. of subj.)	High scores T-score > 60		Average scores T-score 40–60		Low scores T-score < 40	
	EG	CG	EG	CG	EG	CG
A. Place of TL among other types of learning	14	9	39	47	13	10
B. Understanding the essence of TL	12	12	45	40	9	14
C. Experiences of valorizing TL	16	13	42	44	8	9
D. Effects of transformative learning	14	8	42	51	10	7
E. Openness to change	10	10	45	48	11	8

The distribution of results across the five evaluated scales indicates a pronounced baseline homogeneity of the groups and the dominance of the average level, the overall mean being $M=97.26$, and the standard deviation $SD=10.41$. Within *Scale A*, at the high level were recorded 21% of subjects in EG and 14% in CG, appreciating the value of transformative learning in restructuring frames of reference. The majority was situated at the average level, representing 59%

of subjects in EG and 71% in CG, while the low level comprises 20% of subjects in EG and 15% in CG, highlighting the presence of uncertainties regarding the specificity of this type of learning. In the case of *Scale B*, the high level was achieved by 18% of subjects in each of both groups, reflecting the assimilation of basic theoretical landmarks. The average level comprises 68% of subjects in EG and 61% in CG, while the low level includes 14% of subjects in EG and 21% in CG, signaling an evasive attitude toward the specificity of TL, conceptual gaps, and the need for thorough familiarization with its foundations. Regarding *Scale C*, the high level comprises 24% of subjects in EG and 20% in CG, who demonstrated full involvement in solving disorienting dilemmas and proposing innovative solutions characterized by critical spirit and independence in thinking. The majority remains at the average level, with 64% of subjects in EG and 67% in CG, while the low level comprises 12% of subjects in EG and 13% in CG, signaling students' occasional involvement in such practices. In *Scale D*, 21% of subjects in EG and 12% in CG are situated at the high level, being aware of the value of this process for professional performance and engaging in reconfiguring their own transformative learning trajectory. The majority is situated at the average level, with 64% of subjects in EG and 77% in CG, while at the low level are found 15% of subjects in EG and 11% in CG, underestimating the resources and effects of transformative learning on developing their own set of values, beliefs, and attitudes. Within *Scale E*, the distribution reveals 15% of subjects in both groups at the high level, being aware of the formative value of TL and engaging fully in the process of transformation and change of their own learning path. The average level comprises 68% of subjects in EG and 73% in CG, and 17% of subjects in EG and 12% in CG at the low level, respectively, indicating moderate receptivity toward restructuring cognitive schemas. Overall, the results attest to a favorable predisposition of the students, fully justifying the formative intervention.

Subsequently, the experimental approach was extended by determining the frequency of involving students in TL contexts by university academic faculty. Thus, the *Questionnaire regarding university academic faculty's practices in organizing transformative learning contexts* was utilized, an instrument developed and validated by the authors [19], administered to a sample consisting of 42 academic faculty members. The distribution of results obtained regarding the frequency of involving students in such activities is structured based on four indicators. Thus, for the first indicator, *Organizing and monitoring TL situations*, 52% of educators were placed at the high level, 45% at the average level, and 3% at the low level. Within the second indicator, *Transformative learning – a conducive context for exercising IndT*, 81% of respondents are positioned at the high level, 17% at the average level, and 2% at the low level. For the third indicator, *Experiences of valorizing TL*, 62% of educators fall into the high level, 36% into the

average level, and 2% into the low level, while for the final indicator, *Effects of transformative learning*, 69% of options correspond to the high level and 31% to the average level, with no shares recorded at the low level.

The analysis of the obtained results reveals the active involvement of educators in the dynamics of educational changes, the awareness of the essence of TL, and the assumption of responsibility for the instructional-educational process. As promoters of change, university educators have the mission of valorizing the potential of this type of learning, offering students the possibility to explore new perspectives, re-evaluate their assumptions, and engage in authentic transformation contexts.

Chapter 3. The Process of Developing Students' Independent Thinking in the Context of TL integrates the experimental formative approach to the investigated problem and has as its goal the theoretical substantiation and development of the PM DITTL through the implementation of the related methodological construct, which describes the structure, principles, and operational mechanisms of developing this type of thinking. This chapter also includes the investigative-experimental dimension of applying and validating the proposed model, highlighting its effectiveness in optimizing the process of students' intellectual and professional development.

To achieve the assumed goal, the PM DITTL was developed, presented in Figure 3.1. It represents an ideational construct that reflects the dynamics of the interconnection between the TL process structured across the ten phases formulated by J. Mezirow and the evolutionary trajectory of forming IndT, along with conducive contexts for developing and exercising it. The development of students' independent thinking unfolded through the valorization of the elaborated PM DITTL, which comprises: the conceptual-theoretical dimension, which synergistically integrates the forms, operations, particularities of IndT, the qualities of the independent thinker, and the PTL; the instrumental-methodological dimension, which includes didactic strategies focused on developing IndT, the principles of constructivist education, norms, rules, and TL contexts, having as anticipated outcome the progressive evolution of IndT. The conceptual-theoretical dimension constitutes the scientific foundation of the model, providing explanatory landmarks and strategic orientation. PM DITTL is supported by major theoretical concepts such as the constructivist paradigm, the theory of TL, and the provisions of educational policy documents.

The approach of the formative experiment was oriented toward valorizing the effectiveness of the PM DITTL, achieved through the development and implementation of the MC DITTL.

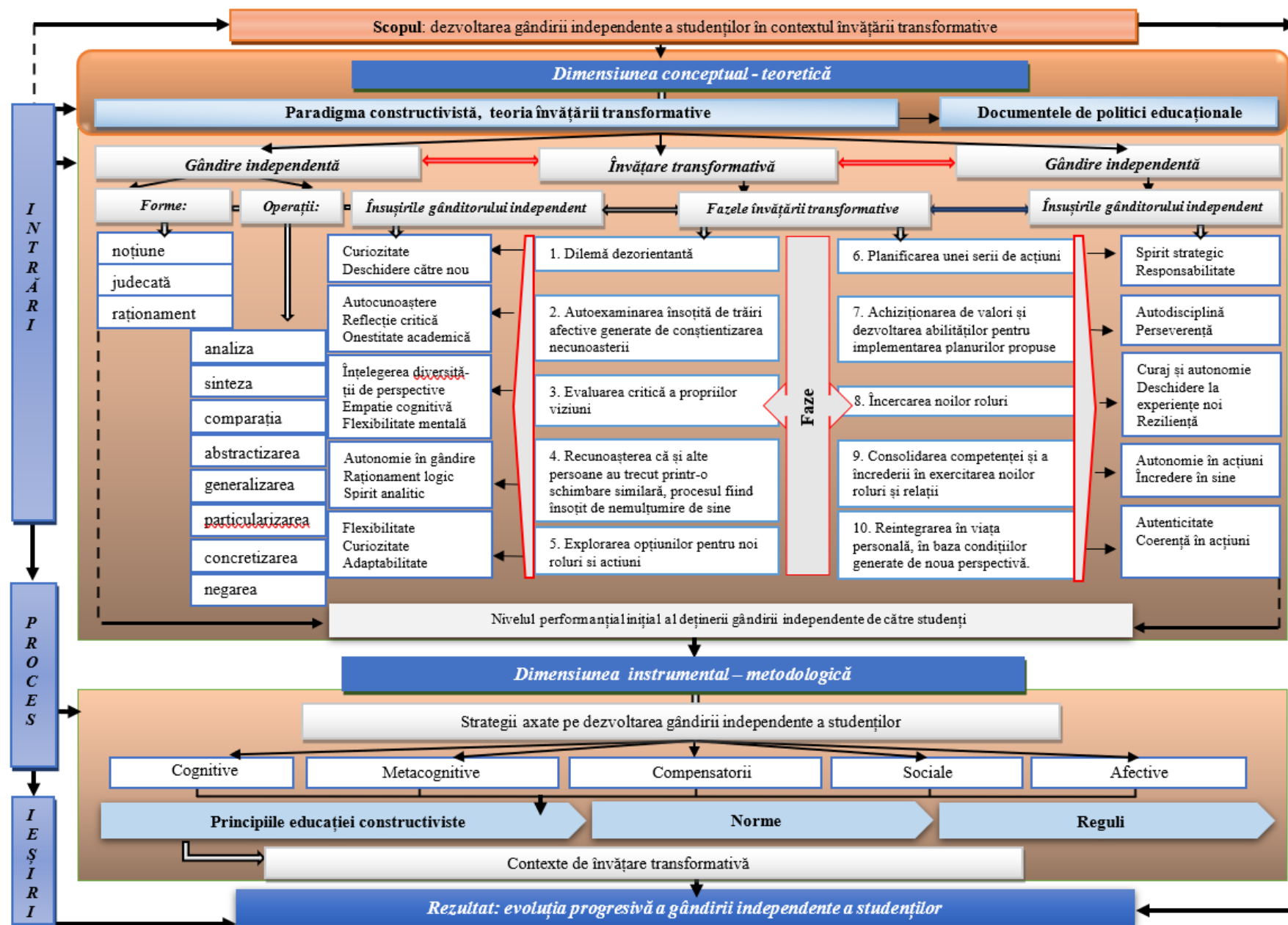


Figure 3.1. Pedagogical Model for the development of students' independent thinking in the context of transformative learning [6]

The methodological construct in question is grounded in the principles of the constructivist paradigm, which entails compliance with norms and rules derived from them, providing the operational framework for enhancing the development of students' IndT in the context of TL. Conceived as a conceptual and operational instrument, it aims at increasing academic performance and self-evaluation capacity, in accordance with current requirements for assessing learners' progress. Within the formative stage, the ES consisted of 66 students (Bachelor studies, full-time and part-time attendance) from the Faculties: Education Sciences and Psychology and Special Psychopedagogy from TSU, currently SPU "Ion Creangă". In order to streamline the development of students' IndT, within the MC DITTL a series of learning tasks developed on the basis of the ten PTL were integrated. These constituted the core elements of the university course "*Learner-Centered Psychopedagogy*", structured across 8 learning units (Appendix 11) and managed through the platforms *TeachEdu HUB Future Classroom* and *Google Classroom*. The process comprised three types of activities: during lecture hours, practical seminars, and autonomous learning activities in authentic contexts, designed to immerse learners in TL circumstances.

The evaluation and monitoring of progress were conducted through analyzing student work artifacts and applying the observation method, utilizing the formative observation sheet developed by the author, structured around 21 performance indicators and a four-point rating scale. Based on this, the qualitative profile of each subject was identified, highlighting three categories of learners: *high level* (performs tasks independently), *average level* (with the experimenter's support), and *low level* (performs with difficulties). The effectiveness of the PM DITTL and students' performances were evaluated through a logical sequence of stages: baseline evaluation, two continuous evaluations (after unit no. 4 and unit no. 8), and summative evaluation. The implementation of the PM DITTL embedded in the related methodological construct determined the strategies with priority weight for developing IndT in the context of PTL, among which: cognitive, metacognitive, compensatory, social, and affective. These, optimally combined, created conditions and openings for the formation, development, and exercise of students' IndT, as essential factors in ensuring performance in the learning process.

The data collected from continuous observations and evaluations conducted throughout the experiment indicate positive trends in the implementation of the pedagogical model embedded in the related methodological construct, with its efficacy to be validated through processing the final post-test data. The completion of the formative experiment creates the prerequisites for the experimental validation of the PM DITTL embedded in the MC DITTL, a process that entails the comparative analysis of results collected across the ascertainment, formative, and validation stages. The methodology of the validation experiment was structured similarly to that of the

ascertainment experiment, being conducted repeatedly on the same sample of 132 students (66 in EG and 66 in CG). To ensure data comparability, the same research methods were applied (questioning, testing, observation, and analysis of student work artifacts), and the qualitative processing of results was conducted through statistical-mathematical methods: the independent-samples and paired-samples t-test, the Pearson correlation coefficient, the Mann–Whitney *U* test, the Wilcoxon test, and the Kolmogorov–Smirnov and Shapiro–Wilk normality tests.

A primary objective was to evaluate students' final level of IndT, with a view to determining the effectiveness of the PM DITTL and its impact on the development of reflective, critical, and autonomous capacities. The experimental data were analyzed on the basis of specific indicators, referenced against the referential criteria for evaluating the progress of independent thinking. The re-administration of the “*How independent thinking are you?*” *Questionnaire* revealed significant differences between groups at the validation stage. Within EG, the category of *impressive independent thinkers* is dominant, recording 59% of subjects compared to 32% in CG, while the *promising independent thinker* category comprises 41% in EG compared to 64% in CG. The categories *potential independent thinker* with 3% and *others think for you* with 1% are found exclusively in CG, an aspect illustrated in the dynamics in Table 3.2. To verify the statistical significance of differences between students in EG and CG at the validation stage, an independent-samples t-test was applied to the total score and the eight dimensions of the “*How independent thinking are you?*” questionnaire, the distribution respecting the assumption of normality verified through the *Q-Q* plot, according to data presented in Table 3.1.

Table 3.1. Independent-samples t-test for the “How independent thinking are you?” Questionnaire (adapted from B. Potter)

Variable	Mean EG	Mean CG	<i>t</i> (df)	<i>p</i> (two-tailed)	Cohen's <i>d</i>
Total score	128.38	122.27	2.606(130)	0.010	0.45
V1. Sincerity	15.92	15.09	1.908(130)	0.059	0.33
V2. Critical thinking	16.52	15.17	2.955(130)	0.004	0.51
V3. Independence	17.48	16.21	2.556(130)	0.012	0.45
V4. Values	17.80	17.33	1.257(130)	0.211	0.22
V5. Responsibility	15.14	14.76	0.834(130)	0.406	0.14
V6. Assertiveness	15.39	15.61	-0.434(130)	0.665	-0.08
V7. Religious tolerance	14.88	14.41	0.795(130)	0.428	0.14
V8. Questioning authority	15.24	13.70	2.891(130)	0.005	0.50

Legend: *p* < 0.05 – statistically significant difference. Cohen's *d*: 0.2 = small; 0.5 = medium; 0.8 = large. Statistically significant values are highlighted in the table.

The obtained data attest that EG distinguishes itself through a higher level in total score (*t*=2.606; *p*=0.010; *d*=0.45), as well as in *critical thinking* (*p*=0.004; *d*=0.51), *independence* (*p*=0.012; *d*=0.45), and *contesting authority* (*p*=0.005; *d*=0.50), manifesting a reflective and

autonomous attitude. In the case of the other dimensions (V1, V4, V5, V6, V7), differences do not reach the threshold of statistical significance, suggesting stability at the value and affective level. To evaluate the formative effect on the analyzed variables, the means of initial and final scores were compared using the paired-samples t-test. The results highlighted a significant increase in the total score in EG, $t(65)=-2.742$; $p=0.008$; $d=0.34$, confirming an overall positive effect. Significant differences were recorded in dimensions V2 ($p=0.002$), V3 ($p=0.008$), V7 ($p=0.043$), and V8 ($p=0.001$), where posttest means significantly exceeded pretest scores. In contrast, dimensions V1, V4, V5, and V6 did not present significant variations, confirming longitudinal stability. At the same time, Pearson correlation coefficients indicated positive and significant relationships between all analyzed variables and the total score ($r=0.58-0.69$; $p<0.001$), confirming the internal consistency of the instrument and the relevance of each variable within the general construct. The strongest associations were recorded between V3 and V8 ($r=0.52$; $p<0.001$), and between V4 and V6 ($r=0.49$; $p<0.001$), respectively. Overall, the implementation of the pedagogical model embedded in the MC DITTL highlighted a positive effect, from small to moderate, on the cognitive and attitudinal dimension of the students. The numerical dynamics based on typology confirms the transition toward the high level, with comparative data being synthesized in Table 3.2.

Table 3.2. Comparative evolution of students by type of independent thinker at pretest and posttest stages

Typology	EG (pretest)	EG (posttest)	CG (pretest)	CG (posttest)
Others think for you	0	0	1	1
Potential independent thinker	1	0	3	2
Promising independent thinker	32	27	31	42
Impressive independent thinker	33	39	31	21

The distribution of respondents highlights an upward trend recorded within EG, where the number of *impressive independent thinkers* increased from 33 to 39 students, along with a decrease in the number of promising independent thinkers from 32 to 27 and the reduction of the *potential independent thinker* category from 1 to 0. In contrast, the CG exhibited no qualitative progress, with the number of *impressive independent thinkers* diminishing from 31 to 21 students, while the lower categories shifted from 3 to 2 for *potential independent thinker* and remained constant at 1 student for *others think for you*.

Subsequently, the experimental approach aimed at analyzing the dynamics of students' personal autonomy. Thus, the processing and interpretation of data obtained at the validation stage were carried out through the re-administration of the *PA Questionnaire* (developed by M. Albu), with results presented in Table 3.3.

Table 3.3. Data obtained based on processing the results of the PA assessment questionnaire at the validation stage

Scale Group (no. of subj.)	High scores T-score > 60		Average scores T-score 40–60		Low scores T-score < 40	
	EG	CG	EG	CG	EG	CG
Cognitive autonomy	11	13	45	44	10	9
Behavioral autonomy	12	11	46	42	8	13
Emotional autonomy	9	8	50	48	7	10
Value autonomy	13	8	42	46	11	12

The analysis of data at the validation stage highlights a predominant distribution at the average level for both samples across all evaluated scales. Thus, for the *cognitive autonomy* scale, the high level was attained by 17% of subjects in EG compared to 20% of students in CG, the average level remained predominant, accounting for 68% of respondents in EG versus 67% in CG, and the low level recorded 15% of subjects in EG versus 13% in CG, attesting to the necessity of constant reflective effort for the gradual reconfiguration of thinking schemas. Regarding *behavioral autonomy*, the profile is more favorable in EG, where 18% of students are situated at the high level versus 17% of respondents in CG, 70% of subjects at the average level versus 63% in CG, and the low level decreased to 12% of students in EG compared to 20% in CG. For the *emotional autonomy* scale, the high level was identified in 14% of subjects in EG versus 12% of respondents in CG, the average level reached 76% of students in EG compared to 73% in CG, and the low level constituted only 10% of subjects in EG versus 15% in CG, reflecting a more efficient management of emotional resources. In terms of *value autonomy*, high scores totaled 20% of students in EG versus 12% in CG, the average level remained dominant with 63% of subjects in EG and 70% in CG, and the low level represented 17% of students in EG and 18% in CG, confirming that experimental group subjects relate more autonomously to their own value system.

To verify whether the differences observed between EG and CG are statistically significant, Student's t-test for independent samples was applied. The results of the comparative analysis for the dimensions of PA are synthesized in Table 3.4.

Table 3.4. Independent-samples t-test for the PA Questionnaire (developed by M. Albu)

Variable	Mean EG	Mean CG	<i>t</i> (df)	<i>p</i> (two-tailed)	Cohen's <i>d</i>
Value autonomy	35.42	33.71	2.048(130)	0.043	0.36
Behavioral autonomy	39.41	38.83	0.664(130)	0.508	0.12
Cognitive autonomy	25.36	26.35	-1.544(130)	0.125	-0.27
Emotional autonomy	29.21	27.65	1.986(130)	0.049	0.35

The EG achieved higher scores compared to CG, with differences being statistically significant for value autonomy ($t(130)=2.048$; $p=0.043$; $d=0.36$) and emotional autonomy ($t(130)=1.986$; $p=0.049$; $d=0.35$), reflecting clarity of personal values and superior emotional control. For behavioral autonomy the increase was moderate ($p=0.508$), but significant intra-group ($p=0.005$), which suggests a gradual improvement in the capacity for independent action. In

contrast, cognitive autonomy remained stable ($p=0.125$), confirming the complex and gradual character of IndT development. Overall, a general trend of increase in PA was observed, with effect sizes ranging from small to moderate ($d = 0.3\text{--}0.4$), which indicated a real, yet gradual evolution. All PA variables correlated positively, with the strongest relationships recorded between value autonomy and emotional autonomy ($r = 0.632$), as well as between value autonomy and behavioral autonomy ($r = 0.625$). The results of the intra-group analysis obtained through the paired-samples t-test confirm the integrated character of PA, sustained by the synergy among assumed values, affective self-regulation, and independent action.

Another instrument applied in the validation experiment was the *Questionnaire for assessing the level of independent thinking competence*, with results illustrated in Figure 3.2.

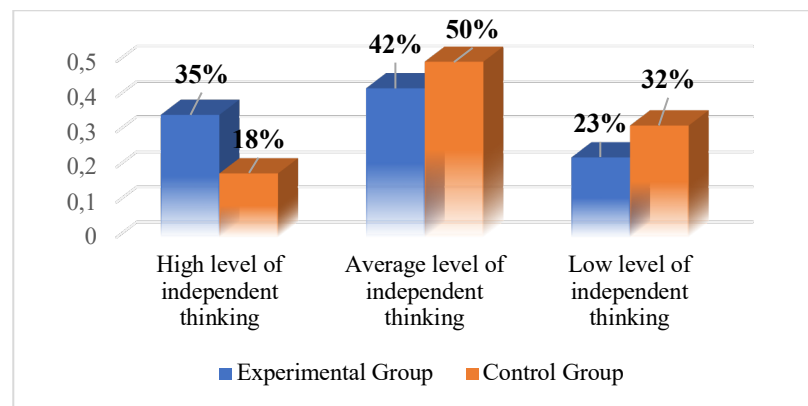


Figure 3.2. Distribution of results regarding the level of independent thinking competence among students in EG and CG at the validation stage

The data highlight positive dynamics in favor of EG, where the high level was attained by 35% of respondents compared to 18% in CG. The average level comprised 42% of students in EG compared to 50% in CG, and the low level decreased to 23% in EG versus 32% in CG, confirming the positive impact of the formative intervention on the development of students' IndT. The independent-samples t-test highlighted statistically significant differences in favor of EG on the dimension *Qualities and particularities of thinking* ($t(130) = 4.40$; $p < 0.001$; $d = 0.77$) and in total score ($t(130) = 2.59$; $p = 0.011$; $d = 0.45$), confirming progress regarding flexibility, coherence, and critical spirit. In contrast, the dimensions *Forms and operations of thinking* ($t(130) = -0.21$; $p = 0.836$), *Typology of thinking* ($t(130) = 0.87$; $p = 0.388$), and *Valorization experiences* ($t(130) = -0.77$; $p = 0.444$) did not record significant discrepancies, indicating the maintenance of operational and applicative baseline equivalence between the two groups.

Pearson correlations highlighted a coherent internal cognitive structure, manifested through moderate associations between V1–V2 and V1–V3 ($r = 0.31\text{--}0.39$) and strong associations between V2–Total ($r = 0.784$) and V3–Total ($r = 0.800$), while dimension V4 presented lower

links with the other scales, reflecting a predominantly applicative orientation. At the same time, the analysis of intra-group dynamics through the paired-samples t-test indicated significant progress within EG between pretest and posttest for thinking forms and operations – V1 ($p = 0.022$; $d = -0.29$), thinking qualities and particularities – V3 ($p < 0.001$; $d = -0.47$), and total score ($p = 0.002$; $d = -0.39$), which confirmed a genuine improvement in independent thinking, while the typological – V2 ($p = 0.296$) and experiential – V4 ($p = 0.501$) dimensions remained stable.

Another instrument used was the *Test for determining the degree of independence*. The distribution of results highlights a more favorable structure in EG, where the high level of independence was attained by 85% of respondents compared to 61% in CG. Concurrently, the average level was attained by 15% of subjects in EG compared to 39% in CG, while the low level was not recorded in any subject. The independent-samples t-test indicated differences between groups both in the total score ($t(129.72) = 2.02$; $p = 0.045$; $d = 0.35$) and in the “level” variable ($t(119.27) = -3.23$; $p = 0.002$; $d = 0.56$), which highlighted a higher degree of personal independence in EG. Given the asymmetric character of the distribution, non-parametric methods confirmed the stability of the data: the Mann–Whitney U test revealed significant differences between groups, with $U = 1700$, $Z = -2.185$, $p = 0.029$, $r = 0.19$ and a mean rank of 73.74 in EG versus 59.26 in CG. The Wilcoxon test recorded significant growth, with $Z = 3.06$, $p = 0.002$, the mean increasing from 31.0 to 32.7 points.

The experimental approach was oriented toward determining the level of students' involvement in TL contexts. Thus, the *Questionnaire focused on identifying the degree of students' involvement in TL situations* was utilized, raw scores were converted into standardized T-scores, with the percentage distribution illustrated in Figure 3.3.

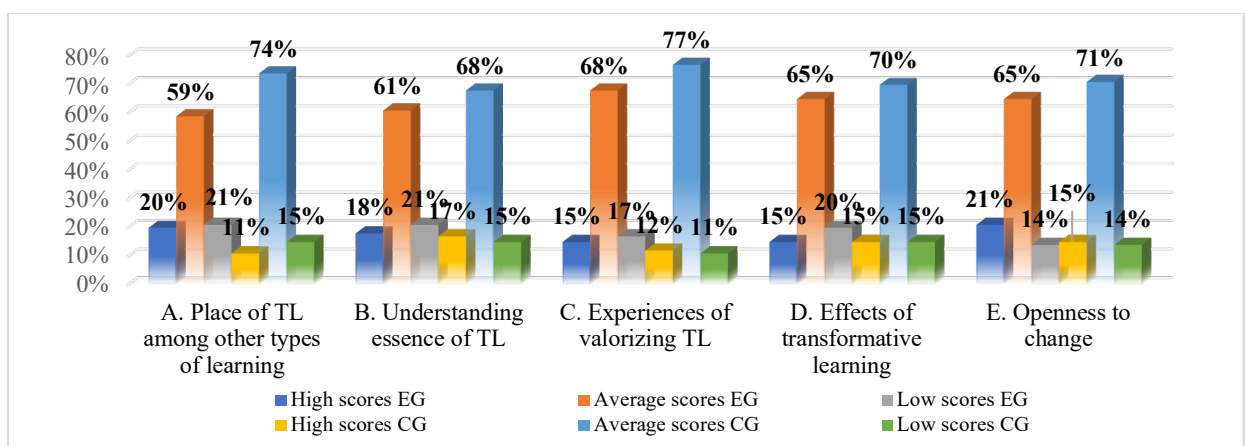


Figure 3.3. Percentage distribution of scores regarding the degree of involvement of students from EG and CG in TL situations at the validation stage

According to the data obtained regarding the degree of students' involvement in TL contexts, in *Scale A* 20% of subjects in EG were recorded at the high level compared to 11% in

CG, appreciating the potential of TL to restructure frames of reference. The average level comprised 59% of students in EG and 74% in CG, while the low level accounted for 21% in EG and 15% in CG. In *Scale B*, the high level accounts for 18% of subjects in EG and 17% in CG, reflecting the assimilation of the specificity of transformative learning, the average level accounted for 61% in EG compared to 68% in CG, while at the low level, 21% of subjects in EG and 15% in CG exhibited limited knowledge about the essence of TL. In the case of *Scale C*, a share of 15% of subjects at the high level in EG compared to 12% in CG was highlighted, the average level comprised 68% of subjects in EG and 77% in CG, and the low level included 17% of subjects in EG compared to 11% in CG, confirming the predominantly active involvement of the experimental group in TL experiences. For *Scale D*, the distribution reveals parity at the high level, with 15% of subjects in each of both groups, the average level totaling 65% in EG and 70% in CG, respectively the low level 20% in EG and 15% in CG, indicating a gradual awareness of the effects of TL on one's own development. In *Scale E*, the high level attests to the superiority of EG, with 21% compared to 15% of subjects in CG, highlighting cognitive flexibility and receptivity to newness, the average level totaling 65% of subjects in EG and 71% in CG, and the low level 14% in each of both cohorts, demonstrating an openness toward change.

The Kolmogorov–Smirnov and Shapiro–Wilk tests indicated deviations for the individual variables ($p < 0.05$), while the total score followed a normal distribution ($p = 0.156$). The t-test applied to the total score highlighted differences between groups ($t(130) = 2.67$; $p = 0.008$), with superior means in EG ($M = 98.73$; $SD = 10.52$) compared to CG ($M = 93.64$; $SD = 11.34$), the effect size indicating a moderate difference ($d = 0.46$). For the asymmetric dimensions, the Mann–Whitney U test confirmed differences in favor of EG for *Scale B* ($U = 1719.00$; $Z = -2.10$; $p = 0.035$), *Scale C* ($U = 1668.00$; $Z = -2.34$; $p = 0.019$), and *Scale E* ($U = 1731.50$; $Z = -2.05$; $p = 0.040$), with differences remaining non-significant for *Scale A* ($p = 0.096$) and *Scale D* ($p = 0.066$).

Pearson correlations revealed positive associations across all dimensions and the total score ($p < 0.001$), the strongest concerning knowledge of the essence of TL and perception of its effects. Depending on the distribution of data, the paired-samples t-test and the Wilcoxon test were applied, results highlighting a significant increase in the total score ($t = -2.06$; $p = 0.043$) and optimization of the cognitive dimension focused on knowledge of the essence of TL ($Z = 2.47$; $p = 0.013$), with the other scales recording positive trends. The convergence of data reconfirms the effectiveness of the pedagogical model embedded in the MC DITTL, indicating an overall positive evolution, with significant progress in theoretical understanding of the transformative process and a gradual consolidation of attitudinal components.

GENERAL CONCLUSIONS AND RECOMMENDATIONS

The investigational inquiry aimed at the scientific substantiation and praxiological valorization of the process of developing students' independent thinking in the context of transformative learning. The critical analysis of specialized literature and empirical data revealed the existence of inconsistencies in conceptualizing and applying this mode of thinking in university education, affecting the quality of cultivating an autonomous and reflective personality in the future professional. Despite widespread recognition of the importance of IndT, a coherent framework integrating cognitive operations, contents, relationships, and products has been lacking. The present research aimed to contribute to bridging these gaps by offering a unified vision of IndT development as a process of cognitive self-regulation and personal transformation.

1. The results of the theoretical research led to formulating a comprehensive definition of IndT, conceptualized as a dynamic system of cognitive operations, structural forms, and qualitative properties that enable the subject to critically analyze reality, formulate autonomous value judgments, and act self-directedly. Deepening the theoretical foundations of the investigated concept demonstrated that it represents a defining condition for developing reflective consciousness and internal personal freedom. In this framework, this mode of thinking manifests through the capacity to select relevant information, critically evaluate opinions, and construct personal knowledge, confirming its formative role in university education.
2. Analyzing specialized literature and models proposed by J. Mezirow, P. Cranton, M. Christie, and other prominent theorists enabled the identification of transformative learning as a valuable educational resource capable of sustaining the development of independent thinking. This form of learning engages cognitive and metacognitive processes through which the learner reinterprets prior experiences, integrates them with new understandings, and reconstructs their underlying frames of reference. This approach transcends rote knowledge transmission, orienting academic education toward transforming personal attitudes, values, and beliefs. Consequently, it was demonstrated that this paradigm provides an authentic environment for fostering critical reflection and cognitive independence.
3. The experimental study of the circumstances and baseline level of acquired values and competencies for independent thinking revealed that a substantial proportion of students exhibited a prevalence of average and low scores across the investigated dimensions. Pedagogical practices concerning its development exhibit notable deficiencies, particularly regarding the creation of relevant contexts for exercising independent thinking in authentic

problem-solving situations, which provides compelling evidence for the necessity of designing and implementing the PM DITTL.

4. Substantiating the Pedagogical Model for Developing Students' Independent Thinking in the Context of Transformative Learning embedded within the Methodological Construct established a systemic interconnection between the teleological purpose, the conceptual-theoretical dimension, and the instrumental-methodological framework. This holistic structure integrates didactic strategies focused on independent cognitive development with conducive experiential contexts, synergistically oriented toward achieving the assumed educational outcomes.
5. The experimental validation of the Pedagogical Model for Developing Students' Independent Thinking in the Context of Transformative Learning was achieved through implementing the corresponding Methodological Construct. This stage integrated constructivist educational principles and derived normative guidelines with a rich repertoire of facilitative learning contexts, embedding simulated and authentic integration situations that fostered substantial, empirically demonstrated progress in students' manifest independent thinking.

Overall, the research confirmed the fundamental working hypothesis that transformative learning represents a high-value resource for developing university students' independent thinking. By actively engaging students across all phases of the transformative process and systematically stimulating cognitive operations, formal structures, qualitative properties, and intellectual products, this approach becomes an intellectually challenging configuration that yields tangible progress and sustainable competencies capable of addressing the demands of a rapidly evolving contemporary society.

The pedagogical value of the research was demonstrated; the important scientific problem solved consists in the theoretical and praxiological substantiation of the functionality of the pedagogical model through the implementation of the methodological construct for the development of students' independent thinking in transformative learning contexts. Transposing this methodological construct into academic practice directly contributed to optimizing the instructional-educational process, strengthening the reflective and autonomous dimension of students' higher-education preparation.

The empirical findings established in this work allow us to formulate the following practical recommendations:

- *For university academic faculty:*
1. Integrating constructivist pedagogical paradigms, particularly transformative learning theory, through the deliberate application of cognitive, compensatory, affective, metacognitive, and

social strategies within university courses, to stimulate and progressively advance students' independent thinking.

2. Consistently promoting student-centered strategies designed to foster independent thinking, critical inquiry, and autonomous decision-making in academic and applied contexts.
3. Actively monitoring and mentoring students across all phases of transformative learning, within lecture courses, practical seminars, and autonomous study activities alike.
4. Granting normative guiding status to the principles of constructivist education in curriculum design and seminar delivery, to ensure systematic cognitive progress in students' independent thinking.
5. Adapting and implementing the pedagogical model embedded in the MC DITTL within other academic disciplines and university study programs.

- *For university students:*

1. Cultivating an independent, reflective, and critical attitude toward the learning process by assuming personal ownership and responsibility for one's own cognitive and attitudinal growth.
2. Actively leveraging prior personal and academic experiences as learning resources, engaging constructively in peer collaboration and self-evaluation processes.
3. Actively participating in the staged progression through transformative learning phases, to systematically acquire the cognitive and affective capabilities required for exercising independent thinking in academic tasks.
4. Developing capacities for self-directed learning and personal transformation by harnessing cognitive, metacognitive, compensatory, affective, and social strategies.

Research limitations and prospective directions. Although the current research demonstrates the effectiveness of the pedagogical model embedded in the methodological construct, its empirical implementation focused predominantly on first-cycle pre-service students within psychopedagogical disciplines. In this regard, prospective research avenues include: transferring the methodological construct to other professional training domains and to second-cycle studies; designing professional development modules for university faculty regarding the facilitation and monitoring of students across all PTL; conducting longitudinal studies to assess the long-term sustainability of independent thinking fostered through TL; investigating the impact of transformative learning on IndT within digitally mediated educational environments; and analyzing the relationship between the extent, as well as the intentions of utilizing artificial intelligence tools, on the one hand, and the development level of IndT among school students, respectively university students.

BIBLIOGRAPHY

In Romanian:

1. ALBU, M. Un nou instrument pentru evaluarea autonomiei personale la adolescenți. În: *Analele Institutului de Istorie „G. Bariț” din Cluj-Napoca. Tom. V.* Cluj Napoca: Series Humanistica, 2007, pp. 99-114.
2. ANTOCI, D., **REPEȘCO** (ARSENOV), G. Valori, convingeri și gândirea independentă în evoluție la tineri moderni. În: *Învățământ superior: tradiții, valori, perspective*. Chișinău: UST, 2019, pp. 11-15. ISBN 978-9975-76-285-4.
3. BOTNARI, V. Învățarea studenților ca proces: configurații actuale. În: *Studia Universitatis Moldaviae (Seria Științe ale Educației)*. Chișinău: USM, 2018, nr. 9 (119), pp. 221-224. ISSN 1857-2103.
4. BOTNARI, V. Tranzițiile paradigmatică moderne în interpretarea relației învățare - dezvoltare la studenți. În: *Revista de studii interdisciplinare „C. Stere”*. Chișinău, 2018, pp. 53-63. ISSN 2457-5550.
5. BOTNARI, V., **REPEȘCO** (ARSENOV), G. Valențele învățării transformative în dezvoltarea gândirii independente la studenți. În: *Materialele Conferinței Republicane a Cadrelor Didactice: Educație preșcolară și primară*. Chișinău: UST, 2019, pp. 33-39. ISBN 978-9975-76-269-4.
6. BOTNARI, V., **REPEȘCO**, G. Modelul pedagogic de dezvoltare a gândirii independente a studenților în contextul învățării transformative. În: *Revista de Știință, Inovare, Cultură și Artă „Akademos”*. Chișinău: Academia de Științe a Moldovei, 2026, nr. 1 (80), pp. 173-180. ISSN 1857-0461.
7. BOTNARI, V., **REPEȘCO**, G. Perspective metodologice ale evaluării gândirii independente a studenților. În: *Studia Universitatis Moldaviae (Seria Științe ale Educației)*. Chișinău: USM, 2022, nr. 9 (159), pp. 148-156. ISSN 1857-2103. DOI: <https://doi.org/10.5281/zenodo.7408497>.
8. BOTNARI, V., **REPEȘCO**, G. Perspective neuropsihologice ale manifestării gândirii independente în contextul învățării transformative. În: *Valorificarea neuroștiințelor în dezvoltarea personală*. Chișinău: CEP UPSC, 2025, pp. 24-31. ISBN 978-9975-48-333-9.
9. BOTNARI, V., **REPEȘCO**, G. *Psihopedagogia centrată pe formabil*. Suport de curs. CEP: UPS „Ion Creangă” din Chișinău, 2024. 371 p. ISBN 978-9975-46-892-3.
10. BOTNARI, V., **REPEȘCO**, G. Valorile și gândirea independentă la tineri. În: *Materialele conferinței științifice a studenților*. Chișinău: Tipografia UST, 2020, pp. 31-40. ISBN 978-9975-76-309-7.
11. BOTNARI, V., STAH, D. Valențele învățării transformative în implementarea politicilor educaționale actuale ale Republicii Moldova. În: *Revista de Știință, Inovare, Cultură și Artă „Akademos”*. Chișinău: AȘM, 2015, nr 1(36), pp. 58-62. ISSN 1857-0461.
12. BUZDUGAN, T. *Psihologia pe înțelesul tuturor*. București: Editura Didactică și Pedagogică, 2007. 232 p. ISBN 978-973-30186-5.
13. FRANȚUZAN, L. Învățarea transformatoare – dimensiune a calității și eficienței procesului educațional la educația științifică (Biologie, Fizică, Chimie). În: *Revista Didactica Pro..., revistă de teorie și practică educațională*. Chișinău: IȘE, 2018, nr. 3 (109), pp. 44-47. ISSN 1810-6455.
14. GOLU, M. *Fundamentele psihologiei*. București: Editura Fundației România de Măine, 2007. 831 p. ISBN 978-973-725-857-1.
15. ILLERIS, K. (coord.) *Teorii contemporane ale învățării. Autori de referință*. București: Editura Trei, 2014. 429 p. ISBN 978-606-719-059-5.
16. NEACȘU, I. *Învățarea academică independentă. Ghid metodologic*. București: Ed. Universitară, 2006. 76 p. ISBN 973-737-192-5.
17. PAVEL, L. C. *Educația părinților ca învățare transformativă*. Teză de doctorat în științe ale educației. Iași: Universitatea „Alexandru Ioan Cuza”, 2016. 327 p.
18. **REPEȘCO**, G. Aspecte metodologice ale dezvoltării gândirii independente în contextul învățării transformative. În: *Învățământ superior: tradiții, valori, perspective: Științe Exacte și ale Naturii și Didactica Științelor Exacte și ale Naturii*. Chișinău: UST, 2021, pp. 260-268. ISBN 978-9975-76-361-5.
19. **REPEȘCO**, G. Experiențe de valorificare a învățării transformative în școala superioară modernă. In: *Current Affairs and Perspectives in Psychological Research: International conference of applied psychology*. Chișinău: Centrul Editorial-Poligrafic al USM, 2022, pp. 403-408. ISBN 978-9975-159-99-9.
20. ȘOITU, L., PAVEL, L.C. Factori care susțin învățarea transformativă intergenerațională la părinți. În: *Studia Universitatis Moldaviae (Seria Științe ale Educației)*. 2016, nr. 9 (99), pp. 22-27. ISSN 1857-2103.
21. ZLATE, M. *Psihologia mecanismelor cognitive*. Iași: Polirom, 2004. 521 p. ISBN 973-683-278-3.

In English:

22. CRANTON, P., HOGGAN, C. Evaluating Transformative Learning. In: TAYLOR, E. W., CRANTON, P. (eds). *The Handbook of Transformative Learning: Theory, Research, and Practice*. San Francisco: Jossey-Bass, 2012, pp. 520-535. ISBN 978-0470590720.
23. DIRKX, J. Engaging emotions in adult learning: A Jungian perspective on emotion and transformative learning. In: TAYLOR, E. W. *Teaching for change: Fostering transformative learning in the classroom*. San Francisco, CA: Jossey-Bass, 2006, pp. 15-26.
24. GILBERT, I. *Independent thinking*. Crown House Publishing, 2013. 224 p. ISBN 9781781350799.
25. MEZIROW, J. *Learning as transformation: Critical perspectives on a theory in progress*. San Francisco: Jossey-Bass, 2000. 371 p. ISBN 0-7879-4845-4.
26. MEZIROW, J., TAYLOR, E.W. *Transformative Learning in Practice: Insights from Community, Workplace, and Higher Education*. San Francisco: Jossey-Bass, 2009. 291 p. ISBN 978-0470-25790-6.
27. POTTER, B. A., ESTERN, M. J. *One step ahead: think for yourself, question authority*. Berkeley: Ronin Publishing, 2012. 200 p. ISBN 978-1579511623.
28. PRESLEY, S. Why is independent and critical thinking important? How can we encourage it? In: *Independent Thinking Review*. Oakland: Resources for independent thinking, 1998, vol. 1, nr. 1.
29. TARABEIH, M., BOLBOCEANU, A., GONȚA, V. *The Psychology of practical thinking among physicians and nurses*. Monograph. Mauritius: LAP Lambert Academic Publishing, 2020. 228 p. ISBN 978-620-0-50637-5.

Electronic resources:

30. *Cadrul de referință al Curriculumului Național*. Chișinău: Ministerul Educației și Cercetării, 2025. 56 p. [citat 29.05.2026]. Disponibil: https://mec.gov.md/sites/default/files/crcn_aprobat.pdf
31. *Cadrul Național al Calificărilor din Republica Moldova* [online]. Chișinău: Ministerul Educației și Cercetării [citat 20.10.2025]. Disponibil: <https://mecc.gov.md/ro/content/cadrul-national-al-calificarilor-2>
32. Codul educației al Republicii Moldova: nr. 152 din 17.07.2014. În: *Monitorul Oficial al Republicii Moldova*, 2014, nr. 319-324, art. 634, pp. 23-45. [citat 04.10.2025]. Disponibil: https://www.legis.md/cautare/getResults?doc_id=110112&lang=ro
33. COSTREIE, S. Despre gândirea independentă. În: *Dilema Veche* [online]. 2015 [citat 04.10.2025]. Disponibil: <https://dilemaveche.ro/sectiune/tema-saptamanii/despre-gindirea-independenta-630251.html>
34. LOH, A. Raising independent thinking children. In: *Brainy-Child* [online]. 2012 [citat 20.08.2024]. Disponibil: <http://www.brainy-child.com/articles/independent-thinking-children.shtml>
35. MEZIROW, J., MARSICK, V. *Education for perspective transformation: Women's reentry programs in community colleges* [online]. New York: Columbia University, Center for Adult Education, 1978. 63 p. [citat: 08.04.2023]. Disponibil: <https://eric.ed.gov/?id=ED166367>
36. *OECD Learning Compass 2030. A series of concept notes*. [online]. Paris: OECD Publishing, 2019 [citat 17.10.2025]. Disponibil: https://www.oecd.org/content/dam/oecd/en/about/projects/edu/education-2040/1-1-learning-compass/OECD_Learning_Compass_2030_Concept_Note_Series.pdf
37. POTTER, B. *How independent thinking are you?* [online]. [citat 30.09.2022]. Disponibil: <http://www.docpotter.com/thifor-test.html>
38. Regulamentul nr. 4/2023 privind cerințe prudențiale pentru băncile de dezvoltare: Art. 51-54. În: *Monitorul Oficial al României* [online]. 2023 [citat 20.09.2025]. Disponibil: <https://www.bidromania.eu/sites/default/files/2025-03/regulamentul-nr-4-2023-privind-cerinte-prudentiale-pentru-bancile-de-dezvoltare.pdf>
39. *Strategia de dezvoltare „Educația 2030” (pentru anii 2021-2030). Conceptul programului de implementare* [online]. Chișinău: MECC, 2020 [citat 31.01.2024]. Disponibil: https://mecc.gov.md/sites/default/files/concept_strategie_program_de_implementare_educatia_2030.pdf
40. *Strategia Națională de Dezvoltare „Moldova 2030”: Notă de concept* [online]. Chișinău: Guvernul Republicii Moldova, 2018 [citat 11.10.2019]. Disponibil: https://mecc.gov.md/sites/default/files/nota_de_concept_viziunea_snd_2030.pdf
41. VOINEA, M. Rolul învățării transformative în pregătirea specialiștilor din domeniul psihopedagogiei speciale [online]. [citat 23.09.2025]. Disponibil: https://arced.ro/cered/2015/volum-conferinta/03_W3_M.Voinea_Rolul%20invatarii%20transformative.pdf
42. КАРЕЛИН, А. А. *Большая энциклопедия психологических тестов* [online]. Москва: Эксмо, 2007, c. 51 [citat 08.02.2022]. Disponibil: <https://studfile.net/preview/2261284/page:51/>

LIST OF AUTHOR'S PUBLICATIONS ON THE TOPIC OF THE THESIS

Academic books

1. BOTNARI, V., REPEȘCO, G. *Psihopedagogia centrată pe formabil*. Suport de curs. CEP: UPS „Ion Creangă” din Chișinău, 2024. 371 p. ISBN 978-9975-46-892-3.

Articles in scientific journals

in journals indexed in other databases accepted by ANACEC:

2. BOTNARI, V., REPEȘCO, G. Theoretical-praxiologial considerations regarding the development of independent thinking in students. In: *New research directions in pedagogy*. Krakow: „National Education Commission” University Publishing House in Krakow, Poland, 2023, pp. 47-55. ISBN 978-83-80-84-985-3. <https://doi.org/10.24917/9788380849853>.
3. GLAVAN, A., REPEȘCO, V., REPEȘCO, G. Integrated educational platforms in modern higher education. In: *Didactica Danubiensis*. Galati: Danubius University of Galati, Vol. 3 No. 1, 2023, pp. 93-101. ISSN: 2821-4374 Retrieved from <https://dj.univ-danubius.ro/index.php/DD/article/view/2476>.

in journals from the National Register of specialized journals (Category B):

4. REPEȘCO, G., GLAVAN, A. Dimensiuni psihologice ale învățării în etapa tinereții. În: *Univers pedagogic*, nr. 1 (73) 2022. Chișinău: IȘE, 2022, pp.56-60. ISSN 1811-5470. DOI: <https://doi.org/10.52387/1811-5470.2022.1.10>.
5. REPEȘCO, G. Învățarea transformativă - resursă valorică pentru exersarea gândirii independente a formabililor În: *Acta et Commentationes, Sciences of Education*, nr. 2 (28), Chișinău, 2022, pp. 98-106. ISSN 1857-0623, E-ISSN 2587-3636. DOI: <https://doi.org/10.36120/2587-3636.v28i2.98-106>.
6. BOTNARI, V., REPEȘCO, G. Perspective metodologice ale evaluării gândirii independente a studenților. În: *Studia Universitatis Moldaviae (Seria Științe ale Educației)*, nr. 9 (159). Chișinău: USM, 2022, pp. 148-156. ISSN 1857-2103. DOI: <https://doi.org/10.5281/zenodo.7408497>.
7. BOTNARI, V., REPEȘCO, G. Modelul pedagogic de dezvoltare a gândirii independente a studenților în contextul învățării transformative. În: *Revista de știință, inovare, cultură și artă: Akademos*, nr. 1 (80). Chișinău: Academia de Științe a Moldovei, 2026, pp. 173-180. ISSN 1857-0461. <https://doi.org/10.52673/18570461.26.1-80.21>.

Articles in conference proceedings and other scientific events

in proceedings of scientific events indexed in other databases accepted by ANACEC:

8. BOTNARI, V., REPEȘCO, G. Intervenții strategice de autoexaminare a propriei cunoașteri. În: *Materialele simpozionului național cu participare internațională Kreatikon: „Creativitate-Formare-Performanță” „Creativitate și inovare – premise ale excelenței în educație”*. Ediția a XVIII-a. Iași: Universitatea „Petre Andrei”, 2023, pp. 28-34. ISSN 2068 – 1372.
9. BOTNARI, V., REPEȘCO, G. Reziliența în fața provocărilor noilor roluri: perspective asupra învățării transformative și dezvoltării personale. În: *Materialele simpozionului național cu participare internațională Kreatikon: „Creativitate-Formare-Performanță” „Creativitate și inovare – premise ale excelenței în educație”*. Ediția a XIX-a. Iași: Universitatea „Petre Andrei”, 2024, pp. 32-38. ISSN 2068 – 1372.
10. BOTNARI, V., REPEȘCO, G. Explorarea noilor roluri și acțiuni în procesul învățării transformative: abordare teoretico – praxiologică. În: *Materialele simpozionului național cu participare internațională Kreatikon: „Creativitate-Formare-Performanță” „Creativitate și inovare – premise ale excelenței în educație”*. Ediția a XX-a. Iași: Universitatea „Petre Andrei”, 2025, pp. 47-54. ISSN 2068 – 1372.
11. BOTNARI, V., REPEȘCO, G. Planificarea unei serii de acțiuni în procesul învățării transformative cu impact asupra evoluției gândirii independente. În: *Materialele simpozionului cu participare internațională Kreatikon: „Creativitate-Formare-Performanță” „Creativitate și inovare – premise ale excelenței în educație”*. Ediția a XXI-a. Iași: Universitatea „Petre Andrei”, 2026, pp. 65-70. ISSN 2068-1372.

in proceedings of scientific events included in the National Register of materials published on the basis of scientific events organized in the Republic of Moldova:

12. BOTNARI, V., REPEȘCO, G. Potențialul învățării transformative în dezvoltarea gândirii independente la adolescenți. În: *Materialele Conferinței Republicane a cadrelor didactice: Performanțele moderne ale personalității în devenire și perspectivele formării de calitate a actanților educaționali*. Vol. IV. Chișinău: Universitatea de Stat din Tiraspol, 2020, pp. 47-54 ISBN 978-9975-76-301-1.

13. BOTNARI, V., **REPEȘCO, G.** Valorile și gândirea independentă la tineri. În: *Materialele Conferinței științifice a studenților*. Ediția a LXIX-a. Chișinău: Universitatea de Stat din Tiraspol, 2020, pp.31-40 ISBN 978-9975-76-309-7.
14. BOTNARI, V., **REPEȘCO, G.** Impactul competenței digitale a cadrului didactic asupra eficienței creării contextelor de învățare transformativă. În: *Materialele conferinței naționale cu participare internațională Educația din perspectiva conceptului Clasa Viitorului*. Universitatea Pedagogică de Stat „Ion Creangă”: SC Garomont Studio SRL, Chișinău, 2020, pp. 239-249. ISBN 978-9975-3461-1-5.
15. BOTNARI, V., **REPEȘCO, G.** Tangențe și discrepanțe dintre gândirea independentă și alte tipuri de gândire. În: *Materialele Conferinței Republicane a cadrelor didactice: Secția 14. Pedagogia școlii superioare*, vol. V. Chișinău: Universitatea de Stat din Tiraspol, 2021, pp. 214-219. ISBN 978-9975-76-322-6.
16. **REPEȘCO, G.** Mecanismele psihice ale gândirii independente. În: *Materialele Conferinței Republicane a cadrelor didactice: Secția 14. Pedagogia școlii superioare*, vol. V. Chișinău: Universitatea de Stat din Tiraspol, 2021, pp. 259-270 ISBN 978-9975-76-322-6.
17. BOTNARI, V., **REPEȘCO, G.** Învățarea pertinentă în contextul pandemic. În: *Materialele Congresului Științific Internațional Moldo-Polono-Român. Secția: Științele educației în contextul provocărilor actuale*, vol. IV, nr.1, Chișinău: Universitatea de Stat din Tiraspol, 2021, pp. 161-172. ISBN 978-9975-76-341-7.
18. GLAVAN, A., **REPEȘCO (ARSENOV), G.** Reflecții psihologice asupra învățării eficiente la studenți. În: *Materialele Conferinței științifice internaționale: Cultura cercetării pedagogice: provocări și tendințe contemporane*, ediția I-a, vol. 2. Chișinău: Universitatea de Stat din Tiraspol, 2021, pp. 175-191. ISBN 978-9975-76-347-9.
19. **REPEȘCO, G.** Aspecte metodologice ale dezvoltării gândirii independente în contextul învățării transformative. În: *Materialele conferinței științifice naționale cu participare internațională „Învățământ superior: tradiții, valori, perspective”*. Chișinău, 2021, vol. I, pp. 260-268, ISBN 978-9975-76-361-5.
20. **REPEȘCO, G.** Pertinența strategiilor de monitorizare a diferitor tipuri de învățare în dezvoltarea gândirii independente la adolescenții din mediul academic. În: *Materialele conferinței științifice naționale cu participare internațională „Educația în fața noilor provocări”*. Chișinău, 2021, vol. II, pp. 85-92, ISBN 978-9975-76-373-8.
21. GLAVAN, A., **REPEȘCO (ARSENOV), G.** Stiluri de învățare și dimensiuni ale psihoigienei mintale. În: *Materialele conferinței științifice internaționale: Asistența psihologică la etapa contemporană: realități și perspective*, ediția a II-a. Bălți, Republica Moldova, 2021. pp. 259-263. ISBN 978-9975-50-269-6.
22. BOTNARI, V., **REPEȘCO, G.** Motivația studenților pentru activitatea de învățare independentă. În: *Materialele conferinței naționale cu participare internațională: Conferința Republicană a cadrelor didactice*, vol. VI. Chișinău: Universitatea de Stat din Tiraspol, 2022, pp. 175-182. ISBN 978-9975-76-387-5.
23. **REPEȘCO, G.** Experiențe de valorificare a învățării transformative în școala superioară modernă. In: *Proceedings of the 2nd International Conference of Applied Psychology „Current Affairs and Perspectives in Psychological Research”* Chisinau: Moldova State University, 2022, pp. 403-408 ISBN 978-9975-159-99-9. DOI: <https://doi.org/10.5281/zenodo.7360921>
24. BOTNARI, V., **REPEȘCO, G.** Incitațiile dilemei dezorientative. În: *Materialele conferinței științifice internaționale „Știință și educație: noi abordări și perspective”*. Chișinău: UPSC, 2023, seria XXV, volumul 1: Psihologie, pp. 167-172. ISBN 978-9975-46-773-5.
25. BOTNARI, V., **REPEȘCO, G.** Evaluarea critică a propriilor viziuni: abordări teoretice și aplicații practice. În: *Materialele conferinței științifice internaționale „Învățământul superior: tradiții, valori, perspective”*. Chișinău: UPSC, 2023, pp. 36-48. ISBN 978-9975-46-816-9.
26. **REPEȘCO, G.** Firescul insatisfacției de sine în procesul învățării transformative. În: *Materialele conferinței științifice internaționale „Știință, Educație, Cultură” dedicată aniversării a 33-a a Universității de Stat din Comrat*. Comrat: USC, 2024, pp. 155-159. ISBN 978-9975-83-296-0.
27. BOTNARI, V., **REPEȘCO, G.** Perspective neuropsihologice ale manifestării gândirii independente în contextul învățării transformative. În: *Materialele conferinței științifice naționale cu participare internațională „Valorificarea neuroștiințelor în dezvoltarea personală”*. Chișinău: CEP UPSC, 2025, pp. 24-31. ISBN 978-9975-48-333-9.

ADNOTARE

Repeșco Gabriela, „Dezvoltarea gândirii independente a studenților în contextul învățării transformative”, teză de doctor în științe ale educației. Chișinău, 2026.

Structura tezei. Teza este constituită din: adnotări în limbile română și engleză, introducere, trei capitole, concluzii generale și recomandări, bibliografie din 165 de titluri, 33 de anexe, 136 de pagini de text de bază, 20 de tabele, 17 figuri. Rezultatele obținute au fost publicate în 27 de lucrări științifice.

Cuvinte-cheie: gândire, gândire independentă, gânditor independent, învățare, învățare transformativă, fazele învățării transformative, paradigmă constructivistă, studenți.

Domeniul de studiu: 5. Științe sociale și economice. 53 Științe ale educației.

Scopul cercetării constă în fundamentarea, elaborarea și validarea experimentală a Modelului pedagogic pentru dezvoltarea gândirii independente a studenților în contextul învățării transformative.

Obiectivele cercetării: 1) fundamentarea esenței tipului de gândire independentă; 2) delimitarea valențelor învățării transformative în dezvoltarea gândirii independente a studenților în devenire profesională; 3) constatarea contextelor și a nivelului inițial al deținerii gândirii independente de către studenți; 4) elaborarea și validarea experimentală a Modelului pedagogic pentru dezvoltarea gândirii independente a studenților în contextul învățării transformative prin implementarea constructului metodologic aferent; 5) deducerea concluziilor și elaborarea recomandărilor.

Noutatea și originalitatea științifică sunt susținute de: precizarea și stabilirea genezei conceptelor de gândire independentă și învățare transformativă; identificarea și analiza teoriilor, abordărilor și orientărilor științifice în scopul conceptualizării tipului de gândire independentă; determinarea și fundamentarea principiilor educației constructiviste necesare pentru dezvoltarea gândirii independente a studenților; argumentarea și elaborarea indicatorilor de performanță/calitate pentru evaluarea progresului GI; demonstrarea eficacității valențelor învățării transformative, transpuse în Modelul pedagogic pentru dezvoltarea gândirii independente a studenților în contexte de învățare transformativă, elaborat și validat experimental prin implementarea constructului metodologic aferent.

Rezultatele obținute care contribuie la soluționarea problemei științifice importante: determinarea fundamentelor teoretice și metodologice ale dezvoltării gândirii independente prin integralizarea teoriilor pedagogice și elaborarea Modelului pedagogic pentru dezvoltarea gândirii independente a studenților în contextul învățării transformative, fapt ce a contribuit la eficientizarea pregătirii studenților în devenire profesională.

Semnificația teoretică a cercetării constă în argumentarea teoretică a conceptelor de gândire independentă și învățare transformativă; fundamentarea și elaborarea Modelului pedagogic pentru dezvoltarea gândirii independente a studenților în contextul învățării transformative; determinarea sistemului de principii (al priorității construcției „cunoașterii”; al autonomiei și individualizării; al învățării experiențiale și contextuale; al învățării prin colaborare), implicit a condițiilor psihopedagogice de dezvoltare a gândirii independente a studenților.

Valoarea aplicativă a cercetării s-a materializat în elaborarea și validarea Modelului pedagogic pentru dezvoltarea gândirii independente a studenților în contextul învățării transformative încorporat în constructul metodologic, care s-a dovedit a fi eficient în dezvoltarea gândirii independente a studenților. Totodată, a fost elaborată o serie de criterii referențiale pentru evaluarea progresului gândirii independente în baza structurii funcționale a gândirii. Un alt aspect aplicativ constă în adaptarea, elaborarea și validarea instrumentelor de diagnosticare a gândirii independente. Cercetarea realizată a demonstrat că toate componentele structurale ale Modelului pedagogic pentru dezvoltarea gândirii independente a studenților în contextul învățării transformative pot fi cu succes aplicate la ciclul I – licență, inclusiv în cadrul cursului universitar „Psihopedagogie centrată pe formabil”.

Implementarea rezultatelor științifice s-a realizat prin activitatea didactică în cadrul Universității de Stat din Tiraspol, actualmente UPS „Ion Creangă” din Chișinău prin intermediul publicațiilor și comunicărilor științifice la seminarele metodologice, congrese, simpozioane, conferințe naționale și internaționale, mese rotunde și workshop-uri. Cercetarea experimentală s-a desfășurat în cadrul UST și a continuat la UPS „Ion Creangă” din Chișinău, în anii de studii 2020-2024, eșantionul experimental a fost constituit din 132 de studenți de la facultățile de Biologie și Chimie, FMTI, Științe ale Educației, Psihologie și Psihopedagogie Specială (care au format ulterior GE și GC) și 42 de cadre didactice universitare, implicate exclusiv în etapa de constatare.

ANNOTATION

Repeșco Gabriela, “Development of students' independent thinking in the context of transformative learning”, PhD thesis in Educational Sciences. Chisinau, 2026.

Structure of the doctoral thesis. The thesis comprises: annotations in Romanian and English, an introduction, 3 chapters, general conclusions and recommendations, a bibliography of 165 titles, 33 appendices, spanning 136 pages of core text, including 20 tables and 17 figures. The research findings were published in 27 scientific papers.

Keywords: thinking, independent thinking, independent thinker, learning, transformative learning, phases of transformative learning, constructivist paradigm, students.

Field of study: 5. Social and Economic Sciences. 53. Education Sciences.

The purpose of our research consists in substantiating, developing, and experimentally validating the Pedagogical Model for the development of students' independent thinking in the context of transformative learning.

Research objectives: 1) substantiating the essence of independent thinking as a specific type of thinking; 2) delimiting the valences of transformative learning in developing the independent thinking of pre-service students; 3) ascertaining the contexts and baseline levels of students' independent thinking; 4) developing and experimentally validating the Pedagogical Model for fostering students' independent thinking in the context of transformative learning through the implementation of the related methodological construct; 5) drawing conclusions and formulating practical recommendations.

Scientific novelty and originality are supported by: clarifying and establishing the genesis of the concepts of independent thinking and transformative learning; identifying and analyzing scientific theories, approaches, and orientations to conceptualize independent thinking; determining and substantiating the principles of constructivist education necessary for developing students' independent thinking; justifying and developing performance and quality indicators for evaluating the progress of independent thinking; and demonstrating the effectiveness of transformative learning valences transposed into the Pedagogical Model for developing students' independent thinking in transformative learning contexts, elaborated and experimentally validated through the implementation of the corresponding methodological construct.

Research findings contributing to the solution of the important scientific problem: determining the theoretical and methodological foundations for the development of independent thinking through the integration of pedagogical theories, and elaborating the Pedagogical Model for fostering students' independent thinking in the context of transformative learning, thereby enhancing the effectiveness of students' pre-service professional preparation.

The theoretical significance of the research consists in: theoretically justifying the concepts of independent thinking and transformative learning; substantiating and elaborating the Pedagogical Model for developing students' independent thinking in the context of transformative learning; determining the system of principles (priority of constructing “knowledge”, autonomy and individualization, experiential and contextual learning, collaborative learning), as well as identifying the psychopedagogical conditions required for fostering students' independent thinking.

The practical value of the research materialized in: developing and validating the Pedagogical Model for developing students' independent thinking in the context of transformative learning embedded in the Methodological Construct, which demonstrated its efficacy in fostering students' independent thinking. Concurrently, a set of referential criteria for evaluating the progress of independent thinking based on the functional structure of cognition was formulated. An additional applicative contribution lies in adapting, elaborating, and validating diagnostic tools for independent thinking. The research confirmed that all structural components of the PM DITTL can be successfully implemented in Cycle I – Bachelor's degree, including within the university course “*Learner-Centered Psychopedagogy*”.

Implementation of scientific results: was carried out through instructional activities at Tiraspol State University, currently “Ion Creangă” State Pedagogical University of Chișinău, via publications and scientific communications at methodological seminars, congresses, symposia, national and international conferences, roundtables, and workshops. The experimental research was conducted at TSU and continued at SPU “Ion Creangă” in Chișinău during the 2020–2024 academic years; the experimental sample comprised 132 students from the faculties of Biology and Chemistry; Physics, Mathematics and Information Technologies; Educational Sciences; Psychology and Special Psychopedagogy (who subsequently formed the experimental group and the control group), as well as 42 university faculty members, involved exclusively in the fact-finding (preliminary) stage.

REPEȘCO GABRIELA

**DEVELOPMENT OF STUDENTS' INDEPENDENT THINKING IN THE CONTEXT OF
TRANSFORMATIVE LEARNING**

Specialty 531.01 – General Theory of Education

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