

Didactic Opportunities For Developing Students' Creative Thinking Based On The Competency-Based Approach

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Abstract: The shift toward competency-based education has foregrounded creative thinking as a core transversal competence demanded by contemporary knowledge economies. This article investigates didactic opportunities for fostering students' creative thinking within the framework of the competency-based approach and offers an empirically grounded model for its integration into higher-education curricula. Drawing on a mixed-methods study conducted at three Uzbek universities over two academic years, the research analyses classroom practices, evaluates learning outcomes with validated psychometric instruments, and explores students' and instructors' perceptions through semi-structured interviews. Quantitative findings demonstrate statistically significant growth in creative fluency, originality, and flexibility among cohorts exposed to a redesigned instructional sequence integrating problem-based, project-based, and reflective modalities. Qualitative data reveal that explicit alignment of creative tasks with clearly articulated competence descriptors strengthens learner motivation, while formative feedback loops cultivate metacognitive regulation of the creative process. The article argues that creativity-centred competence formation is most effective when embedded in authentic disciplinary contexts supported by dialogic pedagogy and digital collaboration tools. Recommendations for curriculum designers and policy makers are provided.

Keywords: Creative thinking; competency-based approach; didactics; higher education; pedagogical design; formative assessment.

Introduction: Over the past two decades competency-based education (CBE) has transformed curricular architectures worldwide by reorienting learning outcomes toward demonstrable, transferrable competences rather than discrete bodies of knowledge. Central among these competences is creative thinking, which international frameworks such as the OECD 2030 Learning Compass and UNESCO's Education for Sustainable Development position as pivotal for innovation, social resilience, and lifelong learning. In Uzbekistan the Presidential Decree "On Measures to Fundamentally Improve the System of Training Qualified Personnel" (2023) explicitly underscores the cultivation of creative competences across all levels of schooling. Nevertheless, empirical studies show uneven implementation, with many programmes still privileging reproductive cognition over generative inquiry.

Existing literature delineates creativity as a multidimensional construct encompassing cognitive,

conative, and environmental components. When mapped onto the logic of CBE, these components fit the triadic model of knowledge, skills, and attitudes, suggesting fertile ground for didactic integration. Yet the practical translation of this conceptual compatibility into classroom practice remains under-examined. Prior investigations, often limited to single-discipline case studies, provide valuable but fragmented insights into task design or assessment without articulating a holistic didactic ecosystem. This gap motivates the present study, which seeks to identify, implement, and evaluate systematic opportunities for nurturing creative thinking through a competency-based lens in diverse higher-education settings.

The article pursues three research objectives: first, to conceptualise a coherent alignment between creative thinking indicators and national competence standards; second, to design an instructional sequence operationalising this alignment across humanities,

social-science, and STEM domains; and third, to measure the impact of the sequence on student creativity and to elucidate mediating pedagogical mechanisms. In doing so, it aims to contribute both theoretical refinement of creativity-oriented CBE and evidence-based guidelines for educators tasked with curricular renewal.

MATERIALS AND METHODS

The study employed a convergent mixed-methods design. Quantitative data were collected through a quasi-experimental procedure involving 362 second-year university students (experimental group = 184; control group = 178) enrolled in Russian philology, educational psychology, and computer engineering programmes. The experimental group participated in a redesigned eight-week module explicitly embedding creative-thinking indicators—fluency, originality, flexibility, and elaboration—into learning outcomes aligned with the National Qualifications Framework. Instruction combined ill-structured problem scenarios, group design projects, synchronous online brainstorming, and reflective e-journals moderated via a Moodle-based learning-management system.

Creativity gains were measured with the Torrance Tests of Creative Thinking (Figural Form B) pre- and post-module. Reliability analysis yielded Cronbach's $\alpha = 0.87$ for the sample. Supplementary cognitive-style data were captured using the Kirton Adaption-Innovation Inventory to control for variance in problem-solving preference. Inferential statistics were processed in SPSS 29, applying ANCOVA with pre-test scores as covariates.

Qualitative insights derived from twenty-seven semi-structured interviews—eighteen students and nine instructors—conducted in Uzbek or Russian, transcribed verbatim, and coded thematically using MAXQDA. Trustworthiness was ensured through member checking and peer debriefing. Classroom artefacts (project reports, discussion threads, and rubric-based feedback) constituted an additional corpus for triangulation. Ethical clearance was obtained from the universities' research ethics committees, and participants provided informed consent.

Statistical analysis revealed significant main effects of the intervention on all creativity dimensions. Adjusted mean fluency scores for the experimental cohort increased from 35.4 to 48.7 ($F = 42.16$; $p < 0.001$), while the control group exhibited a non-significant change (34.9 to 36.1). Originality gains manifested similarly, with experimental-group means advancing from 24.6 to 36.8 ($F = 38.02$; $p < 0.001$). Flexibility and elaboration also recorded robust effect sizes ($\eta^2 > 0.25$). These

patterns persisted across disciplinary contexts, suggesting the transferability of the didactic model. Covariate analysis confirmed that baseline cognitive-style orientation did not significantly interact with treatment effects.

Thematic synthesis of interview data produced three recurrent categories. The first, "Visible Competence Pathways," encapsulated students' appreciation of clear criterion-referenced rubrics that converted the abstract ideal of creativity into tangible performance indicators. The second, "Dialogic Scaffolding," captured instructors' use of Socratic questioning and peer critique sessions, which students credited with catalysing ideational risk-taking. The third category, "Metacognitive Agency," reflected learners' emergent ability to monitor and adjust their divergent-convergent thinking cycles through reflective journaling. Artefact analysis corroborated these perceptions, revealing progressive sophistication in problem framing, conceptual blending, and communicative clarity.

Findings substantiate the premise that creative thinking can be systematically cultivated through competency-based didactics when pedagogical alignment is meticulously engineered. The statistically significant creativity gains align with meta-analytic evidence indicating the efficacy of structured creative-process models over laissez-faire approaches. However, the present study extends existing knowledge by demonstrating that such gains are amplified when competence descriptors are explicitly woven into assessment rubrics and formative feedback. This integration demystifies creativity for learners accustomed to conventional memory-centred evaluation regimes, thereby mitigating anxiety and fostering motivational orientation toward mastery.

Moreover, dialogic scaffolding emerged as a critical mediator, resonating with Vygotskian theories of the Zone of Proximal Development. Interactions that foreground elaborative questioning and collective knowledge construction appear to externalise internal creative processes, rendering them accessible for guidance and refinement. Digital collaboration tools further expanded the dialogic space, enabling asynchronous reflection without temporal constraints. These insights endorse hybrid delivery modes as enablers rather than mere logistical conveniences within creativity-oriented CBE.

The study also illuminates challenges. Instructors initially grappled with reconciling disciplinary content coverage and open-ended creative exploration, echoing global tensions between breadth and depth in curricular design. Institutional assessment policies

prioritising summative high-stakes testing posed additional constraints. Addressing these barriers necessitates meso-level reforms, including faculty development programmes focused on creative-assessment literacy and policy adjustments that reward pedagogical innovation.

The research confirms that competency-based frameworks offer substantive didactic opportunities for developing students' creative thinking, provided that curriculum design, instructional strategies, and assessment architectures converge on clearly operationalised creativity indicators. The proposed instructional sequence, validated across multiple disciplines, generated measurable enhancements in creative fluency, originality, flexibility, and elaboration, while cultivating metacognitive agency and dialogic engagement. For policy makers the findings underscore the imperative of embedding creativity-specific competence standards in national qualifications frameworks and accreditation criteria. For practitioners the study offers an adaptable blueprint that integrates problem-based learning, reflective practice, and formative feedback within digital learning environments. Future research should explore longitudinal retention of creative competences and their transfer to professional contexts.

REFERENCES

- Torrance E.P. Torrance Tests of Creative Thinking: Manual for Figural Forms A and B. 2nd ed. Bensenville: Scholastic Testing Service, 2008. 199 p.
- Kirton M.J. Adaption-Innovation: In the Context of Diversity and Change. London: Routledge, 2003. 386 p.
- OECD. The Future of Education and Skills: Education 2030. Paris: OECD Publishing, 2019. 124 p.
- UNESCO. Creativity and Critical Thinking: Priority Areas for Education in a Changing World. Paris: UNESCO Publishing, 2021. 72 p.
- Beghetto R.A., Kaufman J.C. Toward a Broader Conception of Creativity: A Case for "Mini-C" Creativity // *Psychology of Aesthetics, Creativity, and the Arts*. 2007. Vol. 1, № 2. P. 73-79.
- Cropley A.J. Creativity in Education: An American Retrospect // *International Review of Education*. 2019. Vol. 65, № 1. P. 1-15.
- Csikszentmihalyi M. Creativity: Flow and the Psychology of Discovery and Invention. New York: HarperCollins, 2013. 456 p.
- DeHaan R.L. Teaching Creativity and Inventive Problem Solving in Science // *CBE—Life Sciences Education*. 2009. Vol. 8, № 3. P. 172-181.
- Guilford J.P. The Nature of Human Intelligence. New York: McGraw-Hill, 1967. 538 p.
- Hattie J. Visible Learning: A Synthesis of Over 800 Meta-analyses Relating to Achievement. London: Routledge, 2009. 378 p.
- Kolodner J.L. Case-Based Reasoning. San Mateo: Morgan Kaufmann, 2014. 672 p.
- Robinson K. Out of Our Minds: Learning to Be Creative. Oxford: Capstone, 2017. 400 p.
- Sawyer R.K. Explaining Creativity: The Science of Human Innovation. 2nd ed. Oxford: Oxford University Press, 2012. 568 p.
- Sternberg R.J. The Assessment of Creativity: An Investment-Based Approach // *Creativity Research Journal*. 2018. Vol. 30, № 3. P. 244-253.
- Treffinger D.J., Young G.C., Selby E.C., Shepardson C. Assessing Creativity: A Guide for Educators. Sarasota: Center for Creative Learning, 2002. 148 p.
- Vygotsky L.S. Mind in Society: The Development of Higher Psychological Processes. Cambridge, MA: Harvard University Press, 1978. 159 p.
- Zhao Y. World Class Learners: Educating Creative and Entrepreneurial Students. Thousand Oaks: Corwin Press, 2012. 304 p.
- Министерство высшего образования, науки и инноваций Республики Узбекистан. Национальная рамка квалификаций: утверждена постановлением № 278 от 14.08.2022 г. Ташкент, 2022. 34 с.
- Постановление Президента Республики Узбекистан «О мерах по коренному совершенствованию системы подготовки квалифицированных кадров» от 24.05.2023 г. № ПП-152. Народное слово. 2023. 26 мая.
- Элгин Д. Творческое мышление как компетенция XXI века // *Педагогика*. 2024. № 12. С. 17-25.