SERIES \*SWORLD-GER CP »

## THE CURRENT STAGE OF DEVELOPMENT OF SCIENTIFIC AND TECHNOLOGICAL PROGRESS 2025

1.1





## scientific and technological progress '2025 onference proceedings

FEBRUARY '2025

Series Conference proceedings SW-Ger conference proceedings

Published by: Sergeieva&Co Karlsruhe, Germany https://www.proconference.org/index.php/gec/article/view/gec37-00-019 DOI: 10.30890/2709-1783.2025-37-00-019

### UDC 811.111:378.22:37.091.33

## CONCENTRATED COGNITIVE ABILITIES: A TRILATERAL EDUCATIONAL FRAMEWORK FOR TRAINING OF A NEW GENERATION ENGLISH TEACHER

#### Bodyk O.P. / Бодик О.П.

c.philol.s, as.prof. / к.філол.н., доц. ORCID: 0000-0003-4642-8371 Mariupol State University, Kyiv, Preobrazhenska, 6, 03037 Маріупольський державний університет, Київ, Преображенська, 6, 03037

Abstract. The paper examines the cultivation of intentional thinking skills in pre-service English language teachers as a fundamental aspect of their professional training. The author presents a three-phase learning model comprising the stages of awareness and comprehension of cognitive skills (Talk-Through), their incorporation into educational practice (Walk-Through), and reflective practice accompanied by continuous professional development (Drive-Through). This method enhances language competency while fostering critical, creative, and integrative thinking essential for effective teaching in contemporary educational settings.

*Keywords:* intentional cognitive abilities, English language teacher training, tri-phase learning model, critical and creative thinking, professional development.

#### Statement of the problem.

With the increasing demand for proficient English teachers possessing essential 21<sup>st</sup>-century competencies, higher education must equip students not only with requisite linguistic abilities but also, equally importantly, with vital skills in goal-directed thinking (critical, creative, comprehensive, communicative, collaborative) in English.

Goal-directed thinking skills enable higher education students to analyse, evaluate, and synthesise material effectively, facilitating meaningful and independent reasoning.

Enhancing students' reflective thinking skills in English lessons not only elevates their proficiency but also fosters their intellectual development, allowing them to navigate the fast evolving global scene with confidence and understanding.

English classes create an optimal setting for cultivating reflective thinking skills in pre-service English teachers. Although language acquisition often emphasises grammar, vocabulary, and communication abilities, cultivating reflective thinking skills transcends a superficial understanding. This entails prompting pupils to interrogate assumptions, contemplate varied views, and cultivate their own ideas and thinking [4].

Enhancing reflective thinking skills in English lessons yields substantial advantages. It facilitates higher education students in navigating linguistic complexity more efficiently, enhancing their comprehension, expressiveness, and overall proficiency. Moreover, intentional cognitive skills enable pupils to develop autonomy and self-sufficiency, allowing them to articulate their thoughts confidently across many circumstances.

**Problem setting.** The domain of English language teaching and learning (ELT) is swiftly advancing, and higher education is endeavouring to prepare pre-service English language teachers with the requisite skills and competencies to address the needs of a progressively varied and globalised society.

A significant focus of English teacher training, which has garnered substantial interest from researchers [2; 6; 8], is the enhancement of students' goal-directed thinking skills.

Notable educational authors including Linda Darling-Hammond, Tony Wagner, Charles Fadel, and Howard Gardner have asserted that globalisation necessitates a fundamental reform of education. The expanding global economy has enhanced the standard of education in schools. Research indicates that same methodologies will be insufficient to alter the trajectory. Any solution must empower education to address global economic concerns, thereby encouraging students to further develop and enhance their competencies [7].

In the second decade of the 21<sup>st</sup> century, the development and implementation of a new generation of educational standards, including the State Standard for Basic and Complete General Secondary Education, the Professional Standard for Teachers in General Secondary Education Institutions, and the draft Standards of Higher Education of Ukraine for the first (bachelor's) and second (master's) levels in the field of *0111 Education science* and the speciality *0114 Teacher training with subject specialisation*, emerged as a strategic response to the comprehensive and systematic reform of the New Ukrainian School. This new version mandates higher education teachers to equip pre-service English teachers with comprehensive knowledge and the requisite cognitive abilities essential for effective professional practice in the 21<sup>st</sup> century.

For numerous years, research and educational debate have underscored the significance of critical thinking, creative thinking, and problem-solving abilities across diverse educational settings [1]. The application of these intentional cognitive skills to the instruction and acquisition of English necessitates additional research and development. Given that English teachers significantly influence their students' language proficiency and critical thinking skills, it is essential that these teachers possess the requisite cognitive talents to effectively promote language acquisition.

The study aims to investigate and evaluate a three-phase model for elucidating goal-directed thinking capabilities, employing a pragmatic approach that will improve both critical thinking abilities and the substance of an English lesson. These three phases delineate a framework for each individual lesson.

**Outcomes and discussion**. The present development of goal-directed thinking abilities in the training of future English teachers is marked by an increasing recognition of their significance. Teachers and academics acknowledge the necessity of transcending basic language proficiency to incorporate intentional cognitive capabilities in teacher training programs. This acknowledgement arises from the understanding that proficient English language instruction beyond mere language knowledge dissemination and encompasses the cultivation of students' critical thinking, problem-solving, and effective communication skills [5].

To address this requirement, J. Bellanca, R. Fogarty, and B. Pete [1, p. 5-9] suggested a three-phase educational model aimed at enhancing the preparation of preservice English teachers in cultivating goal-directed thinking skills. It is founded on Lev Vygotsky's theory of proximal development, which promotes the incremental transfer of responsibility to students, enabling them to assume accountability for their own learning. The model adopts a holistic strategy that incrementally develops and enhances cognitive skills along the student's educational journey, serving as a detailed guide for each individual class. The three steps consist of: 1) awareness and comprehension of cognitive skills (Talk-Through), 2) incorporation of cognitive skills into pedagogical practice (Walk-Through), 3) reflective practice and continuous professional development (Drive-Through).

The **first phase** of the educational model (*Phase I – Talk-Through: Explicit Teaching Lesson*) emphasises enhancing awareness and cultivating comprehension of intentional thinking skills for higher education students. The objective is for pupils to acquire understanding of cognitive skills, such as "*What does it mean to analyse*?" This phase entails examining the theoretical underpinnings of critical and creative thinking, problem-solving, and their significance in language instruction and acquisition. Students engage in critical reflection and utilise research literature to enhance their comprehension of these cognitive processes.

Talk-Through comprises five elements:

- 1. Motivational mindset.
- 2. Order of operations.
- 3. Instructional strategy.
- 4. Assessment.
- 5. Metacognitive reflection.

During **phase II** (*Walk-Through: Classroom Content Lesson*), teachers implement practical mastery of cognitive skills into content-specific lessons, offering focused collaborative assistance to guarantee students utilise the skills effectively. To support teachers during this phase, each component has strategies that can be modified for various levels.

The Walk-Through comprises:

- 1. Sample Lesson Content for Beginning Proficiency Levels.
- 2. Sample Lesson Content for Intermediate Proficiency Levels.
- 3. Sample Lesson Content for Advanced Proficiency Levels.

This phase highlights the incorporation of intentional cognitive skills into pedagogical methods ("*I do, we do*" "*We do, independently*"). Pre-service English teachers are acquainted with several pedagogical strategies and practices that foster critical and creative thinking in the English classroom. Students acquire the skills to

create activities, projects, and evaluation instruments that foster higher-order thinking. It underscores the need of establishing an open and supportive educational atmosphere that fosters student expression and collaborative problem-solving. At this juncture, the teacher withdraws and permits students to assume increased autonomy in their learning process. This phase entails collaborative group work, with the teacher serving as a facilitator who observes, assesses comprehension, coaches, and directs students' thought processes. The focus is on collaborative learning and enhancing students' capacity to utilise critical thinking abilities autonomously.

**Phase III** (*Drive-Through: Performance Task Lesson*) emphasises reflective practice and continuous professional development. Aspiring English teachers are urged to evaluate their instructional methods, analyse the influence of deliberate cognitive skills on student learning results, and implement necessary modifications.

During this phase, the teacher assists individual students in translating their comprehension of cognitive skills into genuine application through performance activities. To support teachers during this period, each component comprises solutions tailored for different proficiency levels.

The Drive-Through encompasses:

- 1. Beginning-level task performance.
- 2. Intermediate-level task performance.
- 3. Advanced-level task performance.

This phase underscores the significance of continuous professional development for aspiring English teachers, as students engage in ongoing education, collaborative learning, and conferences to enhance their cognitive abilities and teaching methodologies.

## Summary and conclusions.

The cultivation of reflective thinking abilities among pre-service English teachers is becoming increasingly significant in the domain of English language instruction and acquisition. The present level of development indicates an increasing acknowledgement of the significance of reflective thinking abilities and the necessity to incorporate them into teacher education programs. The suggested three-phase

educational model offers a systematic framework for enhancing the training of preservice English teachers, endowing them with essential skills to cultivate students' critical and creative thinking. Through the cultivation of reflective thinking abilities, aspiring English teachers may establish a vibrant and stimulating learning atmosphere that fosters students' development into autonomous, critical thinkers both within and beyond the English language classroom.

References:

1. Bellanca J. A., Fogarty R. J., Pete B. M. How to Teach Thinking Skills. Seven Key Student Proficiencies for College and Career Readiness (Teaching Thinking Skills for Student Success in a 21<sup>st</sup> Century World). Bloomington, IN: Solution Tree, 2012. 221 p.

2. Costa A. L., Kallick B. Discovering and Exploring Habits of Mind. Alexandria, VA: Association for Supervision and Curriculum Development, 2000. 108 p.

3. Fisher D. & Frey N. Better Learning through Structured Teaching: A Framework for the Gradual Release of Responsibility.  $-2^{nd}$  Ed. Alexandria, VA: Association for Supervision and Curriculum Development, 2008. 158 p.

4. Fogarty R. J. & Pete B. M. From Staff Room to Classroom: A Guide for Planning and Coaching Professional Development. – 2<sup>nd</sup> Edition. Corwin, 2017. DOI: https://doi.org/10.4135/9781071801086

5. Joyce B. R., Calhoun E. Models of Teaching. – 9<sup>th</sup> Edition. New York: Pearson, 2014. 480 p.

6. Marzano R. J. Fostering Thinking across the Curriculum through Knowledge Restructuring. The Journal of Reading. 1991. 34 (7). Pp. 518-525.

Partnership for 21<sup>st</sup> Century Learning. Framework for 21<sup>st</sup> Century Learning.
2011. URL: <u>https://www.battelleforkids.org/networks/p21/frameworks-resources</u>.

8. Slavin R. E. Education for All. New York: Swets & Zeitlinger, 1996 p. 314 p.

86

The article was prepared as part of the research work of the Department of English Philology of Mariupol State University (State Registration Number: 0122U201580)

> sent: 24.02.2025 © Bodyk O.P.

### CONTENTS

### Innovative machinery, technology and industry

https://www.proconference.org/index.php/gec/article/view/gec37-00-004 THE INFLUENCE OF THE TOTAL AREA OF THE ROTOR CONDUCTOR MATERIAL IN ITS CROSS SECTION ON THE ELECTROMAGNETIC TORQUE FOR AN INDUCTION MOTOR *Iegorov O., Iegorova O.* 

https://www.proconference.org/index.php/gec/article/view/gec37-00-009

DESIGN AND CONSTRUCTION OF OPERATIONAL PERFORMANCE OF MODERN FLOUR MIXERS Fedoriv V.M., Stechyshyn M. S., Martynyuk A.V. Liukhovets V.V., Lysenko I. V., Trofymchuk M.O.

https://www.proconference.org/index.php/gec/article/view/gec37-00-010

ANALYSIS OF POLYMER WASTE FOR USE AS RAW MATERIALS IN THE FOOD INDUSTRY AND PROCESSING METHODS Stadnyk I., Havrilko P., Kahanets-Havrylko L.,

Hushtan T., Talapa S.

https://www.proconference.org/index.php/gec/article/view/gec37-00-012 INNOVATIVE MATERIALS FOR MANUFACTURING

DISPOSABLE CUTLERY Piddubniy V. A., Tarasiuk H. M.

Chahaida A. O., Zaharuk I.I.

https://www.proconference.org/index.php/gec/article/view/gec37-00-018

INNOVATIVE SOLUTIONS AND SUSTAINABLE PRODUCTION: ENERGY-EFFICIENT TECHNOLOGIES AND REDUCING "SUGAR DEPENDENCE" IN THE MANUFACTURE OF HEALTHY LOW-GI FLAKES *Kovalenko I.S.* 

Computer science, cybernetics and automation

https://www.proconference.org/index.php/gec/article/view/gec37-00-006 ANALYSIS OF DIFFERENTIAL GENE EXPRESSION USING THE LIMMA PACKAGE Doroshenko I.V., Plotnikova O.O. 22

32

17

7

12

43

48

52

63

#### Architecture and construction

https://www.proconference.org/index.php/gec/article/view/gec37-00-007 METHODOLOGY AND CRITERIA OF THE BASIS FOR STUDYING THE FUNCTION OF TECHNICAL COMPLEXES IN THE CREATION OF CONSTRUCTION OBJECTS *Gorbatyuk Ie.V.* 

https://www.proconference.org/index.php/gec/article/view/gec37-00-011

IMPROVING STABILITY OF SUBGRADES ON DEFORMABLE BASES Balashova Yu.B., Demianenko V.V., Balashov A.O.

**Physics and mathematics** 

https://www.proconference.org/index.php/gec/article/view/gec37-00-008 ATTENUATION OF LAMB GUIDED WAVE IN LAMINAR COMPOSITES *Pysarenko A.M.* 

https://www.proconference.org/index.php/gec/article/view/gec37-00-014 INVESTIGATION OF THE INFLUENCE OF RARE-EARTH METAL IMPURITIES ON THE CONDUCTIVITY OF LITHIUM-IRON SPINEL Vakalyuk A.V., Vakalyuk V.M.

Chemistry and pharmaceuticalshttps://www.proconference.org/index.php/gec/article/view/gec37-00-01758STUDY OF ENVIRONMENTAL IMPACT ASSESSMENT0F THE PRESENTED METHODS FOR QUANTIFYINGOF THE PRESENTED METHODS FOR QUANTIFYINGMETOPROLOL AND PROPRANOL ACCORDING TOTHE WORLD'S LEADING PHARMACOPOEIASZhuravel S.V., Zarivna N.O.

Agriculture, forestry, fisheries and water management

https://www.proconference.org/index.php/gec/article/view/gec37-00-015 THE MAIN FACTORS OF MUDFLOW FORMATION ON THE SLOPE AREAS OF THE CARPATHIANS *Hnativ I.R., Hnativ R.M.* 

94

Management and marketing

https://www.proconference.org/index.php/gec/article/view/gec37-00-020 THE INFLUENCE OF INTELLECTUAL CAPITAL ON THE ADOPTION AND IMPLEMENTATION OF MANAGEMENT DECISIONS

Bosak A.O., Puhach A.I. Vankovych L.Ya.

Education and pedagogy
https://www.proconference.org/index.php/gec/article/view/gec37-00-001 72
THE USE OF PROBLEM-BASED LEARNING IN HIGHER
EDUCATION Kobtseva O.A.,
Koolseva O.A.,
https://www.proconference.org/index.php/gec/article/view/gec37-00-003 76
THE FACTORS OF EUROPEAN CULTURAL POLICY IN THE
COUNCIL OF EUROPE RECOMMENDATION "ON HISTORY
TEACHING IN TWENTY-FIRST-CENTURY EUROPE"
Tarasenko O.L.
https://www.proconference.org/index.php/gec/article/view/gec37-00-019 81
CONCENTRATED COGNITIVE ABILITIES: A TRILATERAL
EDUCATIONAL FRAMEWORK FOR TRAINING OF A NEW
GENERATION ENGLISH TEACHER
Bodyk O.P.
Philology, linguistics and literary criticism
https://www.proconference.org/index.php/gec/article/view/gec37-00-002 88

https://www.proconference.org/index.php/gec/article/view/gec37-00-002 LINGUISTIC FEATURES OF YOUTH JARGON Ostapenko S.A., Udovichenko H.M.

https://www.proconference.org/index.php/gec/article/view/gec37-00-005 ALGEBRAIC REPRESENTATION OF SIMPLE WORD-COMBINATIONS (ON THE EXAMPLE OF THE UKRAINIAN AND ENGLISH LANGUAGES) Yakimova N. A.

https://www.proconference.org/index.php/gec/article/view/gec37-00-013 99 SUSTAINED CULTURAL AND DIPLOMATIC TIES BETWEEN ENGLAND AND FRANCE: COMMON LINGUISTIC HERITAGE *Vorobiova L.V.* 

https://www.proconference.org/index.php/gec/article/view/gec37-00-016 ARTIFICIAL NEURAL NETWORKS IN MACHINE LINGUISTICS *Krasniuk S.O.* 

History

113

https://www.proconference.org/index.php/gec/article/view/gec37-00-021 FROM NEUTRALITY TO WAR: REFLECTIONS OF EUROPEAN

STATES' POSITIONS IN PRESS IN 1939 Drobina L.M. International scientific conference

## THE CURRENT STAGE OF DEVELOPMENT OF SCIENTIFIC AND TECHNOLOGICAL PROGRESS

'2025

## Conference proceedings

February 2025

Development of the original layout - Sergeieva&Co

Sergeieva&Co ProConferenceOrg Lußstr. 13 76227 Karlsruhe

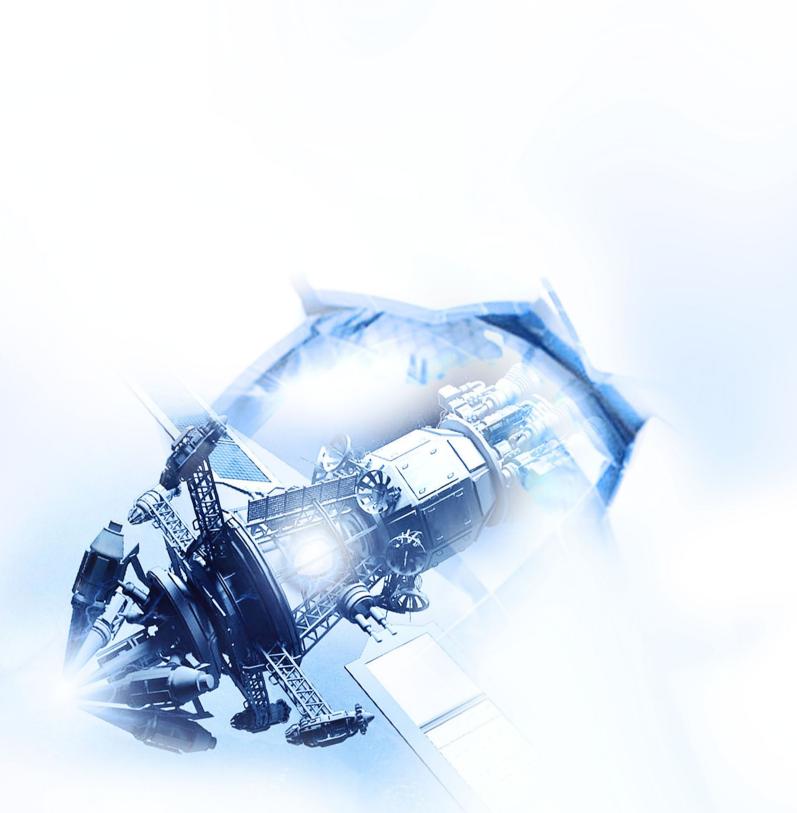


Articles published in the author's edition

With the support of research project **ProConferenceOrg** www.proconference.org www.proconference.org/index.php/gec







*www.proconference.org/index.php/gec* e-mail: info@proconference.org