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CASE STUDIES AS A TOOL FOR PROFESSIONAL DEVELOPMENT OF FOREIGN LANGUAGE TEACHERS

The article considers case studies as an effective tool for the professional development of foreign language teachers. The pedagogical advantages and didactic effectiveness of this method are analyzed, and the features of its implementation in teaching practice are determined. Based on the analysis of modern scientific sources and empirical research, it is proven that case studies contribute to the formation of critical thinking, reflection, improving pedagogical skills and developing innovative teaching strategies. Recommendations are presented for organizing case studies as part of teacher training. It is necessary to take into account the components of the distinctive features of human language, namely: reflexivity, imaginary displacement, arbitrariness, productivity, cultural continuity and duality, since communication cannot exist without knowledge of language. Analysis of such situations allows the teacher not only to solve a specific problem, but also to develop algorithms for future actions.

Keywords: case study, professional development, foreign language teacher, pedagogical reflection, case study method.

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ТЕМАТИЧНІ ДОСЛІДЖЕННЯ ЯК ІНСТРУМЕНТ ПРОФЕСІЙНОГО РОЗВИТКУ ВЧИТЕЛІВ ІНОЗЕМНИХ МОВ

У статті розглядаються тематичні дослідження (case studies) як ефективний інструмент професійного розвитку вчителів іноземних мов. Проаналізовано педагогічні переваги та дидактичну ефективність цього методу, визначено особливості його впровадження в практику викладання. На основі аналізу сучасних наукових джерел та емпіричних досліджень доведено, що тематичні дослідження сприяють формуванню критичного мислення, рефлексії, підвищенню педагогічної майстерності та розвитку інноваційних стратегій навчання. Представлено рекомендації щодо організації тематичних досліджень у рамках підвищення кваліфікації вчителів. Треба враховувати складові відмінних рис людської мови, а саме: рефлексивність, уявне переміщення, довільність, продуктивність, культурну наступність і дуальність, оскільки спілкування не може існувати без знання мови. Аналіз таких ситуацій дозволяє вчителю не лише вирішити конкретну проблему, але й розробити алгоритми для майбутніх дій.

Ключові слова: тематичне дослідження, професійний розвиток, учитель іноземної мови, педагогічна рефлексія, метод case study, педагогіка.

Introduction

The current conditions of globalization, digitalization of education and the introduction of a competency-based approach necessitate the continuous professional development of foreign language teachers. Traditional forms of advanced training are losing their effectiveness, and instead, the need for interactive, research-oriented teaching methods is growing.

One of such methods is the case study – an analytical approach to considering real or simulated pedagogical situations. The case study allows teachers to reflect on their own practice, identify problems, analyze alternatives, make informed decisions and implement changes.

In today's rapidly changing educational environment, the professional development of a foreign language teacher is becoming not just desirable, but necessary.

To remain an effective, motivated and modern teacher, it is necessary to constantly update your knowledge, improve your teaching methods and deepen your understanding of your own pedagogical practice. In

this context, case studies are one of the most effective tools for a teacher's personal and professional growth.

A case study is an in-depth analysis of a specific pedagogical situation that is relevant to a teacher's professional activity.

It may concern the educational process, teaching characteristics, working with individual students or the entire class, adapting methods to the needs of students, etc. This approach allows the teacher not only to reflect on their own experience, but also to systematically search for new pedagogical solutions.

The advantage of case studies is that they provide a bridge between theory and practice. Teachers often feel a gap between what they were taught at university and the challenges they face every day in the classroom.

Case studies allow them to integrate academic knowledge into the real educational process, contributing to the creation of flexible, innovative and adaptive educational practice.

© Bukhkalo S.I., Ageicheva A.O., Moskalenko M.V., Yavtushenko P.V., 2025 What is especially valuable is that case studies encourage reflection. By analyzing a specific situation, a teacher begins to better understand themselves as a professional: their strengths, gaps, and strategies for interacting with students.

For example, considering a case of unsuccessful student learning may lead to a revision of teaching methods, adaptation of tasks, or even a change in communication style.

In addition, case studies have the potential for collaboration. Working on cases in professional communities or during trainings and seminars stimulates the exchange of experience, broadens the horizon of vision of pedagogical problems, and creates conditions for supporting colleagues.

The main purposes of this paper are:

The aim of the article is to substantiate the effectiveness of case studies as a tool for the professional development of foreign language teachers, as well as to analyze their impact on the formation of reflective, analytical and methodological skills of teachers. The article considers the possibilities of using case studies to improve teachers' professional competence, adapt to modern educational challenges and improve the quality of foreign language teaching [1–6].

Main part

Therefore, case studies are not just a methodological tool, but an effective mechanism for the formation of a reflective, critical, innovative teacher. They allow you to reflect on your own experience, enrich your pedagogical arsenal and develop professional competence, which in the conditions of modern education is the key to success.

In a rapidly globalizing world, the ability to communicate in multiple languages has become an essential skill, both in personal and professional contexts. Foreign language teachers play a pivotal role in cultivating this ability. However, their effectiveness depends not only on their linguistic competence but also on their continuous professional development.

Lifelong learning is indispensable for foreign language educators, as it enables them to adapt to changing educational paradigms, incorporate innovative methodologies, and meet the diverse needs of their students.

The teaching of foreign languages involves more than grammar and vocabulary. It requires cultural sensitivity, pedagogical skills, digital literacy, and the ability to foster communicative competence. As educational technologies evolve and student populations become more diverse, foreign language teachers must stay current with new tools, approaches, and expectations.

Professional development ensures that teachers remain reflective practitioners who can assess and refine their methods in response to emerging trends and research in language education.

Professional development for foreign language teachers can take many forms, ranging from formal training sessions and workshops to collaborative peer learning and action research.

Participation in conferences, webinars, and international exchange programs exposes teachers to global best practices and innovative ideas.

Online professional learning communities and platforms such as MOOCs (Massive Open Online Courses) offer accessible and flexible ways to enhance professional competencies.

In-service training programs, often organized by educational institutions or ministries of education, provide structured opportunities for teachers to acquire new qualifications or specialize in specific methodologies, such as task-based learning, content and language integrated learning (CLIL), or the use of Alpowered language learning tools.

Effective professional development also involves reflective practice. Teachers who analyze their classroom experiences, seek feedback, and engage in action research are better positioned to meet students' needs. Conducting thematic case studies, for example, allows teachers to explore real-life classroom challenges and discover context-sensitive solutions. This not only improves teaching practices but also contributes to the wider body of educational knowledge. Despite its importance, professional development is not without challenges.

Limited time, financial constraints, and lack of institutional support often hinder teachers from engaging in meaningful professional learning. In some contexts, there may also be a lack of recognition or motivation for ongoing development. However, the growing availability of digital tools, global networks, and open educational resources is making professional learning more accessible than ever.

Additionally, policy-makers and educational leaders can play a crucial role in fostering a culture of continuous learning. By creating supportive environments, offering incentives, and embedding professional development into career progression pathways, institutions can empower teachers to grow and innovate.

The professional development of foreign language teachers is a cornerstone of quality language education. As mediators of intercultural understanding and facilitators of global communication, these educators must be equipped with up-to-date knowledge, skills, and attitudes

A commitment to lifelong learning not only enhances teaching effectiveness but also enriches the educational experience for learners. Therefore, investing in the professional growth of language teachers is both a necessity and a strategic imperative for educational systems worldwide.

1. Theoretical foundations of case studies

The case study method has an interdisciplinary origin and is actively used in pedagogy, psychology, management, and medicine. Its essence lies in a deep analysis of a specific situation in order to develop

practical conclusions and strategies for action. In the field of education, case studies:

- stimulate reflective thinking;
- contribute to the modeling of real pedagogical challenges;
- ensure participation in collective problem solving. Scientists (L. Richards, J. Freeman, D. Wallace) emphasize that case studies are a key component of a critical approach to a teacher's professional growth. According to the reflective practitioner concept, a teacher not only transmits knowledge, but also analyzes his own practice, identifies growth areas and learns new methods.

2. Thematic research in the context of professional development of foreign language teachers

Teaching foreign languages has its own characteristics: a high level of communicative interaction, the need to integrate intercultural aspects, and constant updating of methodological tools. Thematic research allows teachers to:

- solve real communicative and methodological difficulties;
 - analyze students' linguistic and cultural errors;
 - plan strategies for differentiating learning;
 - justify the choice of authentic materials;
 - improve online and offline learning.

For example, a thematic research may include the situation: "A student refuses to participate in English communication in class. What factors can influence his behavior and how should the teacher act?" Discussing such a situation in the professional community activates the exchange of experience, forms collective responsibility, and offers new methodological solutions.

3. Advantages of using case studies

The systematic use of case studies in in-service training programs for foreign language teachers contributes to:

- development of analytical thinking;
- formation of self-assessment and self-management skills:
- internationalization of pedagogical experience (through comparison of local and global practices);
- implementation of new educational technologies based on understanding cases.

The Cambridge English study (2019) indicated that teachers who worked with case studies during their inservice training course demonstrated a higher level of adaptability, innovation, and ability to collaborate.

4. Methodological approaches to implementing case studies

For the effective implementation of case studies, it is advisable to adhere to the following methodological principles:

- Contextualization of cases: situations should be close to the real educational environment.
- Collaboration: work in groups, discussion, moderation by a specialist.
- Reflection: a concluding analytical activity in which participants formulate conclusions.

- Technology integration: use of video cases, online forums, Google Classroom or Moodle.
- Continuity: systematic use of cases in professional training.

5. Case study implementation example

A case study was used as part of an in-service training course for English teachers:

"Low motivation of high school students in online lessons: causes and response strategies."

Teachers worked in groups, analyzed student survey data, viewed video clips of lessons, created an action plan, and presented their findings. The results of the survey after completing the module showed an improvement in teachers' confidence in overcoming such situations.

Case studies are an effective tool for the professional development of foreign language teachers, as they combine theoretical understanding with practical activities, promote reflective analysis of pedagogical experience, and support the continuity of professional growth. Their widespread implementation in the system of postgraduate education and advanced training programs can significantly improve the quality of foreign language teaching.

The features of teaching various educational components are associated, at least, with one of the elements of professional training of any specialist. For example, this is mastering the language of the main and related specialties, the basis of which is terminology.

To facilitate the process of mastering terminology, it is necessary that the special language be based on orderly and standardized terminology, without the knowledge of which full-fledged professional activity is impossible. Due to different experience and different personal perceptions, the same term or definition can cause different ideas in different people.

Often, specialists use certain terms out of habit, which is often the reason for different interpretations of some concepts.

At the same time, they sometimes use not only contradictory, but sometimes unauthorized synonyms, which significantly complicate the corresponding text and make it difficult to perceive. This is especially felt today, when in all spheres of human activity - social, economic and property – the Ukrainian language confidently replaces the Russian language traditional for many regions of Ukraine.

In scientific, technical and even popular literature, for an unambiguous interpretation of a wide variety of concepts, it is necessary to use standardized terms and abbreviations, and if there are none, then those commonly used in scientific and technical literature. Over almost a decade and a half of the country's independence, the State Standard of Ukraine has carried out a huge amount of standardization work in the field of terminology, the result of which is the development and implementation of more than a thousand standards for terms and definitions.

It is necessary to take into account the components of the distinctive features of human language, namely: reflexivity, imaginary displacement, arbitrariness, productivity, cultural continuity and duality, since communication cannot exist without knowledge of language.

Research is aimed at studying such issues as:

- 1) classification-identification of models of the organization of waste collection and transportation;
- 2) their classification-identification according to quality control methods, taking into account resistance to the action of natural factors sunlight;
- 3) their classification-identification according to quality control methods, taking into account resistance to the action of natural factors water;
- 4) their classification-identification according to quality control methods, taking into account resistance to the action of natural factors climatic conditions;
- 5) their classification-identification according to quality control methods, taking into account resistance to the action of natural factors microorganisms;
- 6) analysis of the choice of scientifically based models of processing and utilization of polymers as part of solid household waste;
- ?) development of necessary technological schemes and equipment for waste processing;
- 8) conclusions and prospects of research on expanding the product range by synergistic possibilities for various fields of application;
- 9) determination of methods and mechanisms of synergistic technologies of innovative production assortment for various industries, for example, construction objects by classification-identification of regulatory and technical documentation.

Conclusions and ideas for further investigation

Case studies are an effective tool for the professional development of foreign language teachers, as they contribute to:

- the formation of professional reflection;
- the development of 21st century competencies;
- the creation of a community of practitioners;
- the introduction of innovative approaches to teaching.

The introduction of the case study method into the system of advanced training for teachers should be a priority task in educational policy and the activities of centers for postgraduate pedagogical education.

In the modern educational space, which is constantly transforming, the professional development of foreign language teachers is becoming a necessary condition for ensuring high-quality teaching.

One of the effective means of improving pedagogical skills is case studies, which contribute to a deeper understanding of professional situations, the development of critical thinking, self-analysis and reflection.

The essence of case studies

Case studies are a method of qualitative analysis of real or simulated pedagogical situations, which allows the teacher to focus on specific aspects of teaching, interaction with students, classroom management, use of educational technologies, etc.

This approach promotes practice-oriented learning, which is especially important for foreign language teachers who constantly work in an intercultural context.

The role of case studies in professional development.

Engaging in case studies allows teachers to:

- analyze their own pedagogical experience;
- find effective solutions in complex educational situations;
- adapt new teaching methods to specific conditions;
- collaborate with colleagues in the process of collective discussion of cases;
 - develop reflection and self-development skills.

Advantages of using case studies in the training of foreign language teachers

- 1. Contextuality: cases are based on real situations, which brings professional learning closer to the realities of school or university practice.
- 2. Interactivity: case studies are usually accompanied by group discussion, which promotes the exchange of experience and enrichment of professional worldview.
- 3. Critical thinking: case analysis develops the ability to critically evaluate pedagogical decisions, search for alternatives and predict results.
- 4. Motivation: participation in case studies stimulates interest in learning and improving one's own practice.

Examples of using case studies

In practice, case studies can cover topics such as:

- methods for developing students' foreign language communicative competence;
- integration of digital technologies into the teaching process;
- resolving conflict situations in a multicultural classroom;
- adaptation of methods to an inclusive environment.

Analysis of such situations allows the teacher not only to solve a specific problem, but also to develop algorithms for future actions.

The presented possibilities of comprehensive innovative training of students can be applied to various branches of modern food technology, taking into account the development of the activities of the public organization "Ukrainian Association of Chemical and Food Engineering" [7–32].

Список літератури

- Freeman, D. (2016). Educating Second Language Teachers: The Same Things Done Differently. Oxford University Press.
- 2. Richards, J. C., & Farrell, T. S. C. (2005). Professional Development for Language Teachers:

- Strategies for Teacher Learning. Cambridge University Press.
- Wallace, M. J. (1991). Training Foreign Language Teachers: A Reflective Approach. Cambridge University Press.
- 4. Cambridge English Teaching Framework (2019). Cambridge Assessment English.
- Farrell, T. S. C. (2015). Reflective Language Teaching: From Research to Practice. Bloomsbury Academic.
- 6. Kolb, D. A. (1984). Experiential Learning: Experience as the Source of Learning and Development. Prentice-Hall.
- 7. Бухкало С.І., Агейчева А.О., Агейчева О.О., Бабаш Л.В., Пшичкіна Н.Г. Методичні аспекти реформування дистанційного навчання в системі вищої освіти. № 5 (2020): Вісник НТУ «ХПІ», с. 3–10. https://doi.org/10.20998/2220-4784.2020. 06.13
- 8. Bukhkalo S.I., Ageicheva A.O., Belyanskiy O.M., Rozhenko I.V., Abakumov A.A. Didactic materials perception activating methods in distance education. Вісник НТУ «ХПІ». Х.: 2024, № 1, с. 61–70.
- 9. Бухкало С.І. Деякі концепції сталого розвитку України Інформаційні технології: наука, техніка, технологія, освіта, здоров'я: тези доповідей XXVIII міжнародної науково-практичної конференції МісгоСАD-2020, 28-30 жовтня 2020 р.: Ч. ІІ./за ред. проф. Сокола Є.І. Харків: HTУ «ХІП», с. 172.
- 10. Bukhkalo S.I., Ageicheva A.O., Belyanskiy O.M., Rozhenko I.V., Abakumov A.A. Innovative approaches to teaching foreign languages at higher educational institutions. Вісник НТУ «ХПІ». 2023, № 2, с. 18–27.
- 11. Бухкало С.І. Удосконалювання методів оцінки знань студентів вищих навчальних закладів. Вісник НТУ «ХПІ». Х.:, 2014. № 16. С. 3–11.
- 12. Бухкало С.І. Особливості розробки об'єктів інтелектуальної власності зі студентами. XXV Межд. нпракт. конф. «Информационные технологии: наука, техника, технология, образование, здоровье» (МісгоСАD-2018) 17-19 мая 2018. X.: Ч. ІІ, с. 201.
- 13. Bukhkalo S.I.. Ageicheva A.O., Moskalenko M.V., A.E. Vypovska A.E. ICT usage implementation in startup projects translation. № 1 (2021): Вісник Національного технічного університету «ХПІ». Серія: Інноваційні дослідження у наукових роботах студентів, с. 71–79.
- 14. Bukhkalo S.I.. Ageicheva A.O., Derkunska Z.H., Pshychkina N., Vypovska A. Startup projects machine translation strategy in examples and problems. № 6 (2021): Вісник Національного технічного університету «ХПІ». Серія: Інноваційні дослідження у наукових роботах студентів, с. 63-71.
- 15. Bukhkalo S., Ageicheva A., Moskalenko M., Rozhenko I., Belyanskiy O. Professional competence formation while training field translation specialists. № 1 (2022): Вісник НТУ «ХПІ». Серія: Інноваційні дослідження у наукових роботах студентів, с. 62-69.
- 16. Bukhkalo S., Ageicheva A., Psychkina N., Rozhenko I., Belyanskiy O. Field translators professional competence formation peculiarities. № 1 (2022): Вісник НТУ «ХПІ». Серія: Інноваційні дослідження у наукових роботах студентів, с. 38-45.
- 17. Bukhkalo S.I., Ageicheva A.O., Rozhenko I.V., Shkil S.O. Innovative learning methods during seminar classes at higher educational institutions. № 1 (2023): Вісник НТУ

- «ХПІ». Серія: Інноваційні дослідження у наукових роботах студентів, с. 24-31.
- 18. Bukhkalo S.I., Ageicheva A.O., Belyanskiy O.M., Moskalenko M.V., Derkunska ZH.V., Iglin S.P.. Innovative approaches to teaching at higher educational institutions in examples and tasks. № 1 (2023): Вісник НТУ «ХПІ». Серія: Інноваційні дослідження у наукових роботах студентів, с. 78-85.
- 19. Bukhkalo S.I., Ageicheva A.O., Belyanskiy O.M., Rozhenko I.V., Abakumov A.A. Innovative approaches to teaching foreign languages at higher educational institutions. № 2 (2023): Вісник НТУ «ХПІ». Серія: Інноваційні дослідження у наукових роботах студентів, с. 18-27.
- 20. Bukhkalo S.I, Ageicheva A.O., Shkil S.O., Bolotnikov S.Y.. THE role of translation in cross-cultural communication. № 2 (2023): Вісник НТУ «ХПІ». Серія: Інноваційні дослідження у наукових роботах студентів, с. 79-87.
- 21. Методичні вказівки до самостійної роботи з дисципліни «Сучасні технології харчування» для здобувачів першого (бакалаврського) рівня вищої освіти спеціальності 241 «Готельно-ресторанна справа» денної та заочної форм навчання, електронний варіант, протокол № 6 від 29.08.2024 р засідання кафедри туризму і готельно-ресторанного бізнесу НТУ «ХПІ» / уклад. Бухкало С. І. Харків: НТУ «ХПІ», 2024. 24 с. https://repository.kpi.kharkov.ua/handle/KhPI-Press/89416
- 22. Методичні вказівки до самостійної роботи з дисципліни «Харчова хімія» для здобувачів першого (бакалаврського) рівня вищої освіти спеціальності 241 «Готельно-ресторанна справа» денної та заочної форм навчання, електронний варіант, протокол № 6 від 29.08.2024 р засідання кафедри туризму і готельно-ресторанного бізнесу НТУ «ХПІ» / уклад. Бухкало С. І. Х : НТУ «ХПІ», 2024. 35 с. https://repository.kpi.kharkov.ua/handle/KhPI-Press/89412
- 23. Методичні вказівки до самостійної роботи з дисципліни «Товарознавство та управління закупівлями» для здобувачів першого (бакалаврського) рівня вищої освіти спеціальності 241 «Готельно-ресторанна справа» денної та заочної форм навчання, електронний варіант, протокол № 6 від 29.08.2024 р засідання кафедри туризму і готельно-ресторанного бізнесу НТУ «ХПІ» / уклад. Бухкало С. І. Х : НТУ «ХПІ», 2024. 44 с. https://repository.kpi.kharkov.ua/handle/KhPI-Press/89415
- 24. Tovazhnyansky L.L.; Meshalkin V.P.; Kapustenko P.O.; Bukhkalo S.I.; Arsenyeva O.P.; Perevertaylenko O.Yu. Energy efficiency of complex technologies of phosphogypsum conversion. Theoretical Foundations of Chemical Engineering, Volume 47, Issue 3, May 2013, Pages 225-230.

https://link.springer.com/article/10.1134/S0040579513030135

25. Belous, O., Demidov, I.M., & Bukhkalo, S.I., Development of complex antioxidant from leaves extract of walnut and calendula leaves. 2015. East-European Journal of Advanced Technologies. Kharkiv: «Technological Center», 1/6 (73), 22–26. DOI: 10.15587/1729-4061.2015.35995

https://repository.kpi.kharkov.ua/handle/KhPI-Press/24968

26. Bukhkalo S.I.; Klemeš J.J.; Tovazhnyanskyy L.L.; Arsenyeva O.P.; Kapustenko P.O.; Perevertaylenko O.Yu. Eco-friendly synergetic processes of municipal solid waste polymer utilization (Article). Chemical Engineering Transactions. Volume 70, 2018, Pages 2047-2052.

https://repository.kpi.kharkov.ua/handle/KhPI-Press/36240

- 27. Bukhkalo S.I.; Klemeš J.J.; Tovazhnyanskyy L.L.; Arsenyeva O.P.; Kapustenko P.O.; Perevertaylenko O.Yu. Eco-friendly synergetic processes of municipal solid waste polymer utilization. 23rd International Congress of Chemical and Process Engineering, CHISA 2018 and 21st Conference on Process Integration, Modelling and Optimisation for Energy Saving and Pollution Reduction, PRES 2018. Volume 2, 2018, Pages 1268-1269. https://www.proceedings.com/47779.html
- 28. Руднєва Л.Л., Бухкало С.І., Лакіза О.В., Черваков О.В. Рослинні воски як модифікатори властивостей еластомерних і полімерних матеріалів. Voprosy khimii і khimicheskoi tekhnologii, 2021, No. 1, pp. 90-100. https://udhtu.edu.ua/public/userfiles/file/VHHT/2021/1/Rudneva.pdf,
- Porokhnia M., Tseitlin M., Bukhkalo S., Panasenko V., Novozhylova T. Defining features in the kinetics of sodium carbonate-bicarbonate solution carbonization and the quality of the resulting sodium bicarbonate crystals. EasternEuropean Journal of Enterprise Technologies. 2021. Vol. 4, №10(112), pp. 38 44. https://doi.org/10.15587/1729-4061.2021.239157
- Mariia L. Zemelko, 1 Svitlana I. Bukhkalo. Selection of functional components from plant raw materials and their application in chocolate mass recipes. Journal of Chemistry and Technologies, 2023, 31(3), 601-610. https://doi.org/10.15421/jchemtech.v31i3.284837
 https://chemistry.dnu.dp.ua/article/view/284837
 - 31. Mariia L. Zemelko, 1 Svitlana I. Bukhkalo. Комплексне дослідження моделей впливу структури компонентів на різновиди шоколадних глазурей. Journal of Chemistry and Technologies, 2023, 31(1), 104-113. http://chemistry.dnu.dp.ua http://chemistry.dnu.dp.ua https://doi.org/10.15421/jchemtech.v31i1.273572
 - 32. Zipunnikov M. Researching the process of hydrogen generating from water with the use of the silicon basis alloys / Mykola Zipunnikov, Svetlana Bukhkalo, Anatolii Kotenkoa // French-Ukrainian Journal of Chemistry, French-Ukrainian Journal of Chemistry, French-Ukrainian Journal of Chemistry. 2019. Vol. 7, iss. 2. P. 138-144. https://repository.kpi.kharkov.ua/handle/KhPI-Press/43501

References (transliterated)

- Freeman, D. (2016). Educating Second Language Teachers: The Same Things Done Differently. Oxford University Press.
- Richards, J. C., & Farrell, T. S. C. (2005). Professional Development for Language Teachers: Strategies for Teacher Learning. Cambridge University Press.
- Wallace, M. J. (1991). Training Foreign Language Teachers: A Reflective Approach. Cambridge University Press.
- 4. Cambridge English Teaching Framework (2019). Cambridge Assessment English.
- Farrell, T. S. C. (2015). Reflective Language Teaching: From Research to Practice. Bloomsbury Academic.
- 6. Kolb, D. A. (1984). Experiential Learning: Experience as the Source of Learning and Development. Prentice-Hall.
- Bukhkalo S.I., Agejcheva A.O., Agejcheva O.O., Babash L.V., Pshichkina N.G. Metodichni aspekti reformuvannja

- distancijnogo navchannja v sistemi vishhoï osviti. № 5 (2020): Visnik NTU «KhPI», pp. 3–10. https://doi.org/10.20998/2220-4784.2020. 06.13
- 8. Bukhkalo S.I., Ageicheva A.O., Belyanskiy O.M., Rozhenko I.V., Abakumov A.A. Didactic materials perception activating methods in distance education. Visnik NTU «KhPI»,. Kh.: 2024, № 1, c. 61–70.
- Bukhkalo S.I. Dejaki koncepcii stalogo rozvitku Ukraini Informacijni tehnologii: nauka, tehnika, tehnologija, osvita, zdorov'ja: tezi dopovidej XXVIII mizhnarodnoi naukovopraktichnoi konferencii MicroCAD-2020, 28-30 zhovtnja 2020 r.: Ch. II./za red. prof. Sokola €.I. – Kh: NTU «KhPI», p. 172.
- Bukhkalo S.I., Ageicheva A.O., Belyanskiy O.M., Rozhenko I.V., Abakumov A.A. Innovative approaches to teaching foreign languages at higher educational institutions. Visnik NTU «KhPI», 2023, No. 2, pp. 18–27
- 11. Bukhkalo S.I. Udoskonaljuvannja metodiv ocinki znan' studentiv vishhih navchal'nih zakladiv. Visnik NTU «KhPI». Kh.:, 2014. No. 16. pp. 3–11.
- 12. Bukhkalo S.I. Osoblivosti rozrobki ob'ektiv intelektual'noï vlasnosti zi studentami. XXV Mezhd. n-prakt. konf. «Informacionnye tehnologii: nauka, tehnika, tehnologija, obrazovanie, zdorov'e» (MicroCAD-2018) 17-19 maja 2018. Kh.: Ch. II, p. 201.
- 13. Bukhkalo S.I.. Ageicheva A.O., Moskalenko M.V., A.E. Vypovska A.E. ICT usage implementation in startup projects translation. № 1 (2021): Visnik NTU «KhPI». Kh., pp. 71–79.
- 14. Bukhkalo S.I.. Ageicheva A.O., Derkunska Z.H., Pshychkina N., Vypovska A. Startup projects machine translation strategy in examples and problems. № 6 (2021): Visnik NTU «KhPI». Kh., pp. 63–71.
- Bukhkalo S., Ageicheva A., Moskalenko M., Rozhenko I., Belyanskiy O. Professional competence formation while training field translation specialists. Visnik NTU «KhPI». Kh., pp. 62–69.
- Bukhkalo S., Ageicheva A., Psychkina N., Rozhenko I., Belyanskiy O. Field translators professional competence formation peculiarities. No. 1 (2022). Visnik NTU «KhPI». Kh., pp. 38-45.
- Bukhkalo S.I., Ageicheva A.O., Rozhenko I.V., Shkil S.O. Innovative learning methods during seminar classes at higher educational institutions. No. 1 (2023): Visnik NTU «KhPI». Kh., pp. 24-31.
- Bukhkalo S.I., Ageicheva A.O., Belyanskiy O.M., Moskalenko M.V., Derkunska ZH.V., Iglin S.P.. Innovative approaches to teaching at higher educational institutions in examples and tasks. No. 1 (2023): Visnik NTU «KhPI». Kh., pp. 78-85.
- Bukhkalo S.I., Ageicheva A.O., Belyanskiy O.M., Rozhenko I.V., Abakumov A.A. Innovative approaches to teaching foreign languages at higher educational institutions. No. 2 (2023): Visnik NTU «KhPI». Kh., pp. 18-27.
- Bukhkalo S.I, Ageicheva A.O., Shkil S.O., Bolotnikov S.Y.. THE role of translation in cross-cultural communication. No. 2 (2023): No. 1 (2023): Visnik NTU «KhPI». Kh., pp. 79-87.
- 21. Metodichni vkazivki do samostijnoï roboti z disciplini «Suchasni tehnologiï harchuvannja» dlja zdobuvachiv pershogo (bakalavrs'kogo) rivnja vishhoï osviti special'nosti 241 «Gotel'no-restoranna sprava» dennoï ta zaochnoï form navchannja, elektronnij variant, protokol № 6 vid 29.08.2024 r zasidannja kafedri turizmu i gotel'no-

- restorannogo biznesu NTU «KhPI» / uklad. Buhkalo S. I. Kharkiv: NTU «KhPI», 2024. 24 p. https://repository.kpi.kharkov.ua/handle/KhPI-Press/89416
- 22. Metodichni vkazivki do samostijnoï roboti z disciplini «Harchova himija» dlja zdobuvachiv pershogo (bakalavrs'kogo) rivnja vishhoï osviti special'nosti 241 «Gotel'no-restoranna sprava» dennoï ta zaochnoï form navchannja, elektronnij variant, protokol № 6 vid 29.08.2024 r zasidannja kafedri turizmu i gotel'no-restorannogo biznesu NTU «KhPI» / uklad. Buhkalo S. I. Kh: NTU «KhPI», 2024. 35 p. https://repository.kpi. kharkov.ua/handle/KhPI-Press/89412
- 23. Metodichni vkazivki do samostijnoï roboti z disciplini «Tovaroznavstvo ta upravlinnja zakupivljami» dlja zdobuvachiv pershogo (bakalavrs'kogo) rivnja vishhoï osviti special'nosti 241 «Gotel'no-restoranna sprava» dennoï ta zaochnoï form navchannja, elektronnij variant, protokol № 6 vid 29.08.2024 r zasidannja kafedri turizmu i gotel'no-restorannogo biznesu NTU «KhPI» / uklad. Buhkalo S. I. Kh : NTU «KhPI», 2024. 44 p. https://repository. kpi.kharkov.ua/handle/KhPI-Press/89415
- Tovazhnyansky L.L.; Meshalkin V.P.; Kapustenko P.O.; Bukhkalo S.I.; Arsenyeva O.P.; Perevertaylenko O.Yu. Energy efficiency of complex technologies of phosphogypsum conversion. Theoretical Foundations of Chemical Engineering, Volume 47, Issue 3, May 2013, Pages 225-230.
- https://link.springer.com/article/10.1134/S0040579513030135
- Belous, O., Demidov, I.M., & Bukhkalo, S.I., Development of complex antioxidant from leaves extract of walnut and calendula leaves. 2015. East-European Journal of Advanced Technologies. Kharkiv: «Technological Center», 1/6 (73), 22–26. DOI: 10.15587/1729-4061.2015.35995
- https://repository.kpi.kharkov.ua/handle/KhPI-Press/24968
- Bukhkalo S.I.; Klemeš J.J.; Tovazhnyanskyy L.L.; Arsenyeva O.P.; Kapustenko P.O.; Perevertaylenko O.Yu. Eco-friendly synergetic processes of municipal solid waste polymer utilization (Article). Chemical Engineering Transactions. Volume 70, 2018, Pages 2047-2052.

https://repository.kpi.kharkov.ua/handle/KhPI-Press/36240

- 27. Bukhkalo S.I.; Klemeš J.J.; Tovazhnyanskyy L.L.; Arsenyeva O.P.; Kapustenko P.O.; Perevertaylenko O.Yu. Eco-friendly synergetic processes of municipal solid waste polymer utilization. 23rd International Congress of Chemical and Process Engineering, CHISA 2018 and 21st Conference on Process Integration, Modelling and Optimisation for Energy Saving and Pollution Reduction, PRES 2018. Volume 2, 2018, Pages 1268-1269. https://www.proceedings.com/47779.html
- 28. Руднєва Л.Л., Бухкало С.І., Лакіза О.В., Черваков О.В. Рослинні воски як модифікатори властивостей еластомерних і полімерних матеріалів. Voprosy khimii i khimicheskoi tekhnologii, 2021, No. 1, pp. 90-100. https://udhtu.edu.ua/public/userfiles/file/VHHT/2021/1/Rudneva.pdf,
- Porokhnia M., Tseitlin M., Bukhkalo S., Panasenko V., Novozhylova T. Defining features in the kinetics of sodium carbonate-bicarbonate solution carbonization and the quality of the resulting sodium bicarbonate crystals. EasternEuropean Journal of Enterprise Technologies. 2021. Vol. 4, №10(112), pp. 38 44. https://doi.org/10.15587/1729-4061.2021.239157
- 31. Mariia L. Zemelko, 1 Svitlana I. Bukhkalo. Selection of functional components from plant raw materials and their application in chocolate mass recipes. Journal of Chemistry and Technologies, 2023, 31(3), 601-610. https://doi.org/10.15421/jchemtech.v31i3.284837 http://chemistry.dnu.dp.ua/article/view/284837
- 31. Mariia L. Zemelko, 1 Svitlana I. Bukhkalo. Комплексне дослідження моделей впливу структури компонентів на різновиди шоколадних глазурей. Journal of Chemistry and Technologies, 2023, 31(1), 104-113. http://chemistry.dnu.dp.ua http://chemistry.dnu.dp.ua https://doi.org/10.15421/jchemtech.v31i1.273572
- Zipunnikov M. Researching the process of hydrogen generating from water with the use of the silicon basis alloys / Mykola Zipunnikov, Svetlana Bukhkalo, Anatolii Kotenkoa // French-Ukrainian Journal of Chemistry, French-Ukrainian Journal of Chemistry. 2019. Vol. 7, iss. 2. P. 138-144. https://repository.kpi.kharkov.ua/handle/KhPI-Press/43501

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