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APPLYING CONSTRUCTIVIST APPROACH IN THE EFL METHODOLOGY TEACHING

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The article explores the ways of applying the constructivist approach in the EFL Methodology teaching. The research was conducted at Pavlo Tychyna Uman State Pedagogical University. The study used curriculum analysis, classroom observation and survey. The analysis of the EFL Methodology sessions proved their constructivist character. The obtained results are supported by the data collected from the students participating in the research. The benefits of the constructivist approach have been determined.

Keywords: *constructivist approach; constructivist principles; constructivist learning environment; EFL Methodology teaching; PRESETT Curriculum on Methodology; New Generation School Teachers project; teacher training; model of pedagogical education; teaching and learning.*

ЗАСТОСУВАННЯ КОНСТРУКТИВІСТСЬКОГО ПІДХОДУ У ВИКЛАДАННІ МЕТОДИКИ НАВЧАННЯ АНГЛІЙСЬКОЇ МОВИ

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У статті досліджено шляхи застосування конструктивістського підходу у викладанні методики навчання англійської мови відповідно до нової типової програми, розробленої в межах спільного проєкту Міністерства освіти і науки України та Британської Ради в Україні «Шкільний вчитель нового покоління» (2013–2019 рр.). Дослідження проведені на базі Уманського державного педагогічного університету імені Павла Тичини. Були використані такі методи дослідження: аналіз навчальної програми, спостереження навчальних занять з методики навчання англійської мови, анкетування, яке здійснювалося шляхом онлайн-опитування через Google Forms.

Аналіз навчальної програми здійснено шляхом порівняння основних засад конструктивістського підходу з принципами, на яких базується програма з методики. Визначено та схарактеризовано шляхи застосування принципів конструктивістського підходу; описано особливості освітнього середовища, побудованого на засадах цього підходу. Аналіз занять з методики навчання англійської мови слугував додатковим підтвердженням застосування конструктивістського підходу. Висновки, отримані у результаті аналізу програми та занять, підтверджують результати анкетування студентів факультету іноземних мов, які навчаються за означеною програмою. Результати анкетування представлені у графічній формі. Загалом опитування підтвердило окреслені шляхи застосування конструктивістського підходу у викладанні методики навчання англійської мови. Визначені респондентами та представлені у статті

переваги конструктивістського підходу засвідчили його ефективність.

Зроблено висновок, що конструктивістський підхід відповідає вимогам Нової української школи та Концепції розвитку педагогічної освіти і може бути успішно використаним у процесі викладання інших дисциплін. Зазначено, що реалізація означеного підходу передбачає глибоке переосмислення професійної практики викладачів. Вивчення питання готовності викладачів до реалізації конструктивістського підходу, на думку автора, створює перспективи для подальшого дослідження.

Ключові слова: *конструктивістський підхід; принципи конструктивістського підходу; конструктивістське освітнє середовище; викладання методики навчання англійської мови; програма додипломної методичної підготовки вчителів; проєкт «Шкільний вчитель нового покоління»; підготовка вчителя; модель педагогічної освіти; викладання і навчання.*

The creation of a new model of pedagogical education has become a definite turning point in the process of teacher training in Ukraine. New vision of teacher training is given in the Concept for the Development of Pedagogical Education (2018) [10], the key purpose of which is to “advance the modernization of pedagogical education to create a base for training new generation teachers and provide conditions for the formation and development of modern alternative models of professional and personal development of teachers” [9]. It has become obvious that the modernization of pedagogical education requires new approaches to teacher training. The results of the study were provided in late 2017 by the World Social Science Report (WSSR) and presented when discussing the Concept for the Development of Pedagogical Education at Dragomanov National Pedagogical University in March 12, 2018. The document states that the level of understanding the material is significantly reduced if passive pedagogical methods are used, such as reading and listening to lectures, while the effect of learning is maximized when participants work on common goals, such as discussions or group projects, blended learning, etc. It is confirmed by the following statistics. The average rate of mastering the material when passively listening to lectures in the classroom was 5 %, practical classes increased the rate of assimilation to 75 %, but the format in which students taught each other gave 90 % of knowledge and skills. Thus, cooperative learning and peer-tutoring create a positive effect on learning outcomes [8]. Among the approaches that meet the New Ukrainian School requirements and correspond to the Concept for the Development of Pedagogical Education are communicative approach, competence approach, constructivist approach, inquired-based learning, discovery learning, etc.

This paper examines the key features of the constructivist approach and explores the ways of its application in the EFL Methodology teaching according to the new PRESETT Curriculum on Methodology for the initial EFL teacher training system in Ukraine. This study is aimed at identifying the benefits of teaching EFL Methodology according to the constructivist approach.

The constructivism is generally defined as “a learning theory based on the belief that learning occurs as learners are actively involved in a process of meaning and knowledge construction” [4]. In other sources constructivism is viewed as “an approach to learning that holds that people actively construct or make their own knowledge and that reality is determined by the experiences of the learner” (Elliott et al., 2000) [6, p. 256]. According to Dr. Bada (2015) “the constructivist view of learning considers the learner as an active agent in the process of knowledge acquisition” [1, p. 66].

This theory has an increased interest among the scientists and educators. Numerous works have been devoted to constructivist teaching and learning (Bada J., 2015;

Balasubramanian, N. & Wilson, B., 2007; Dagar V, D. & Yadav, A., 2016; Kucirkova, N., 2019; Mascolo, M. E. & Fischer, K. W., 2005 and others) [1; 2; 5; 11; 13]. Together these studies provide conceptual understanding of the theory, identify its benefits by specifying the differences between traditional and constructivist classrooms. Some further studies provide ideas as for practical application of the constructivist approach in teaching and learning. Harjali, H. (2019) reports on building constructivist learning environment at Senior High School in Indonesia [8]. Rachel J. Mercer (2020) examines teacher training and beliefs in relation to the development of instructional technology-driven constructivist learning environments [12]. The key ideas presented in the aforementioned works serve as a basis for the analysis of the new PRESETT Curriculum on Methodology in order to explore the ways the constructivist approach is applied and identify its benefits.

The study was centered round the following research questions:

1. How are the key features of the constructivist approach applied in the EFL Methodology teaching?
2. What are the benefits of teaching EFL Methodology according to the constructivist approach?

The research took place at Pavlo Tychyna Uman State Pedagogical University. The study used curriculum analysis, observation of the EFL Methodology sessions, and a survey on the application of the constructivist approach in the EFL Methodology teaching. The survey made it possible to collect data in a short period of time. A total of 19 participants were recruited for the survey. They were students of the Faculty of Foreign Languages who are taking EFL Methodology according to the Curriculum designed within the New Generation School Teacher Project (British Council Ukraine and Ministry of Education and Science of Ukraine, 2013–2019) [3]. The aforementioned research population was on the 2nd, 3rd and the 4th year of studying the Methodology course. Sampling was chosen on a voluntary basis. Questionnaire was used as survey data collection tool and included six questions. Five of them suggested several options for students to tick. There was one open-answer question. It concerned the benefits of the constructivist approach.

In order to find out the ways of applying the constructivist approach in the EFL Methodology teaching we referred to the key concepts of this approach: principles and features of the constructivist learning environment. In our opinion, the understanding of these particular concepts is of great importance for the study.

In his article, McLeod (2019) lists and comments on the five principles of constructivism:

- Knowledge is constructed, rather than innate, or passively absorbed;
- Learning is an active process;
- All knowledge is socially constructed;
- All knowledge is personal;
- Learning exists in mind [14].

Furthermore, McLeod (2019) states that constructivist learning theory underpins a variety of student-centered teaching methods and techniques which contrast with traditional education, whereby knowledge is simply passively transmitted by teachers to students [14]. Similar ideas are highlighted by Bada (2015) and presented in a chart format which compares the traditional classroom to the constructivist one [1, pp. 68–69].

Currently, the transition from teacher-centered to learner-centered approach is

observed in many teacher training programmes in Ukraine. The EFL Methodology is not an exception. Since 2015 this course has been taught according to the new PRESETT Curriculum on Methodology (bachelor's level) in 14 Ukrainian universities. The curriculum analysis unpacks the core Curriculum into its parts dealing with those aspects that are relevant to this study. Together with this data collection tool we referred to the observation of the EFL Methodology sessions.

First of all, the core Curriculum was thoroughly studied in terms of its key design principles. Three of them were distinguished as the ones that totally correspond to the concepts of the constructivist approach. These principles are:

- Methodology as the key to the preparation of student teachers;
- Variety of approaches to teaching;
- Continuous assessment throughout the programme [3, p. 17–18].

Comparing these principles to the key concepts of the constructivist approach we concluded that the core Curriculum promotes the creation of a constructivist learning environment. This conclusion is supported by the results of the Curriculum analysis. According to the core Curriculum the Methodology course is concerned with the application of existing knowledge and experience in real-life situations rather than with knowledge itself. Hence, EFL Methodology teaching does not rely on lecturing considering it inefficient way of delivering content. Instead, the theory is taught through practice and students' own experience. Accordingly, as it is stated in the core Curriculum "the new curriculum recommends a range of teaching approaches, among them task-based learning, the use of case studies, simulations, group projects and problem solving" [3, p. 17]. Such modes of teaching and learning are typical of the constructivist approach. Moreover, they promote interaction of a high level and students' active involvement in the process of their own learning. As outlined by Harjali, H. (2019), "the expectation of constructivist learning is students' active participation in the learning process" [8, p. 2199].

Considering assessment an important feature of the constructivist classroom that makes it different from the traditional one, it is necessary to specify assessment types suggested by the Curriculum. It includes a wide range of assignment types, among them: essay, reflective writing, reports, presentation, quiz, lesson plan, case study, materials and test design, professional development plan, portfolio [3, p. 27]. Authors view them both as learning experiences and as ways of assessing students. Such assessment types are typical of the student-centered classroom.

In view of all that has been mentioned so far, one may conclude that EFL Methodology teaching and learning is an active process. Interaction is another feature of a constructivist classroom. Overall, there is evidence to indicate that all knowledge is socially constructed. Observing EFL Methodology classes it was noticed that students' active involvement in a dynamic teaching and learning process is facilitated by working predominantly in small groups and pairs. Such an approach to classroom organization promotes a high level of interaction and serves as evidence for the constructivist principle stating that all knowledge is socially constructed. At the same time, each individual learner's point of view is valued. Sharing his or her existing knowledge and values with the whole group helps to perceive new experience, reflect on the new information and construct a new interpretation of the reality.

The analysis of the EFL Methodology sessions provides additional support for the

constructivist character of the EFL Methodology classroom. It is important to note that “constructivist classrooms are structured so that learners are immersed in experiences within which they may engage in meaning-making inquiry, action, imagination, invention, interaction, hypothesizing and personal reflection. In this perspective experiential learning is considered the most effective” (Bada, 2015) [1]. Similarly, the EFL Methodology teaching relies on Kolb’s Experiential Learning theory for session design. Kolb suggests a 4-phase learning cycle connected with doing, sensing, observing, reflecting, thinking and planning. This learning cycle structures the learning sequence and provides the development of life skills (communication, teamwork, critical thinking, problem-solving, information literacy, creativity, etc.) which is the aim of the core Curriculum. The description of Session 2 “Techniques for Presenting Vocabulary” (Unit 2.3 “Teaching Vocabulary in Context”) given in our previous study (Gembaruk, 2017) clearly demonstrates how Kolb’s experiential learning cycle works in the EFL Methodology classroom [7]. This procedure is presented in *Table 1*.

Table 1

**The Implementation of Kolb’s Experiential Learning Cycle
in the EFL Methodology Teaching**

Stage	Description
Stage 1	Students reflect on the way they were taught vocabulary at school/University and fill in the tables individually. Then they share their experience of learning vocabulary with their partners specifying techniques used by their teacher that they find most useful and explaining what makes their vocabulary learning experience memorable. Here students reflect on their own experience and share it.
Stage 2	Students watch a video and identify the techniques which the teachers use to convey the meaning of vocabulary items. Then they discuss the results in the plenary.
Stage 3	In groups, students read the articles on teaching vocabulary and find three more techniques for teaching vocabulary, which were not mentioned in the video. Then they share the information with the group.
Stage 4	In the same groups, students discuss what techniques are particularly appropriate for the presentation of certain types of words (e.g., abstract/concrete nouns, parts of speech, phrasal verbs) and what techniques are likely to be more, or less appropriate for particular learners (e.g., young/adult, beginner/advanced). Then they categorize the techniques according to types of words and learners’ age. So, on stages 2–4 students get new experience, reflect on it and share it.
Stage 5	Working in pairs, students are supplied with a list of words and the list of techniques for presenting vocabulary. They are to choose the appropriate technique for presenting a particular lexical item. Then they check the answer with the key and discuss the controversial points if any. At this stage students experience new skills.
Stage 6	Students work in four groups. Each group is given three vocabulary items to present in class, using an appropriate technique to convey the meaning and specifying the age and level of learners. The rest of the group is to identify the techniques presented and give feedback. Here students try out new skills.
Stage 7	Students participate in a round-up. They are asked to point out three things about vocabulary teaching that they have learnt during this session; to name vocabulary activities that they particularly liked; to name vocabulary techniques they would like to experiment with. At this stage students reflect on their new experience.

Table 1 proves students' active involvement in different learning activities, reflection on these activities, as well as acquiring new knowledge or experience and experimenting with a new experience. Thus, they go through the four phases of Kolb's Experiential Learning Cycle: concrete experience, reflective observation, abstract conceptualization, active experimentation. In such a way students construct the knowledge by themselves relying on their own experience and sharing it with their peers. The teacher acts more as a facilitator who mediates, prompts, and helps students to develop and assess their understanding of the information, and thereby their learning.

Hence, it can be summarized that the key concepts of the constructivist approach are successfully applied in the EFL Methodology course taught according to the new PRESETT Curriculum on Methodology (bachelor's level). The conclusions obtained from the curriculum analysis and observation of the EFL Methodology sessions are supported by the data collected from the students. They were asked to express their opinion about the application of the key features of the constructivist approach in the EFL Methodology teaching. Two questions of the feedback questionnaire were addressed to the recipients:

- What features of the constructivist classroom are typical for your EFL Methodology sessions?
- Relying on your experience of Methodology learning, identify the principles your EFL Methodology classes are based on.

As presented earlier in this article, the survey was done using a group of 19 students sampled from the faculty population by voluntary response method. According to the survey data, 100 % of respondents marked that both the constructivist principles and features of the constructivist classroom are typical of their EFL Methodology sessions, though the percentage of their representation varies. Hence, graphs were created to indicate the result for each option by itself. The data is demonstrated in Figures 1, 2.

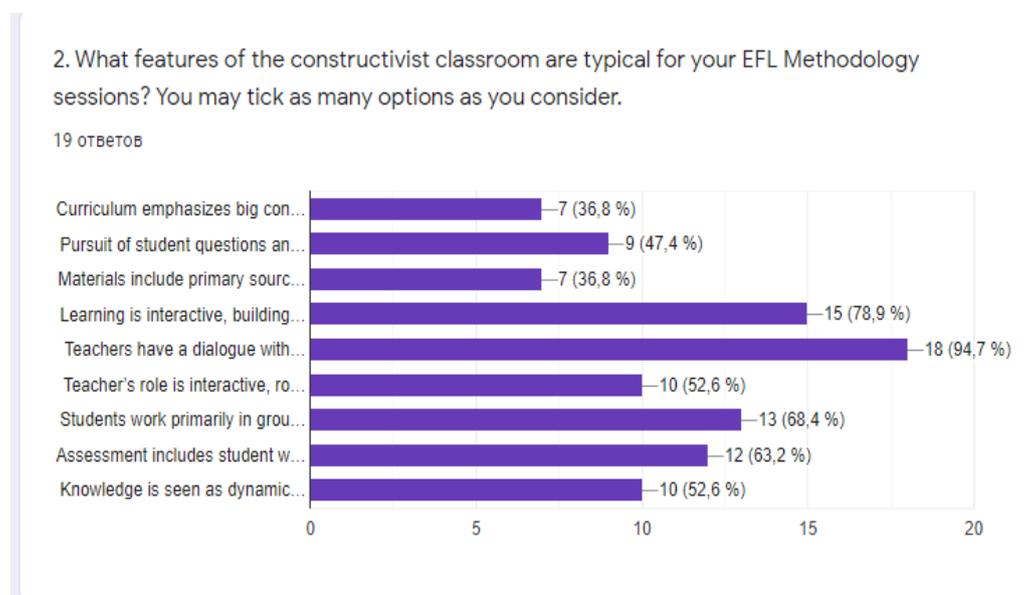


Figure 1. The results of students' answers to Question 1

In *Figure 1* the percentage of the features of the constructivist classroom typical of the EFL Methodology sessions ranges from 94.7 % to 36.8 %. In students' opinion, the best presented are such features as: teachers have a dialogue with students, helping students construct their own knowledge (active learning) (94.7 %); learning is interactive, building on what the student already knows (78.9 %); students work primarily in groups or pairs (cooperative) (68.4 %); assessment includes student works, observations, and points of view, as well as tests (63.2 %); teacher's role is interactive, rooted in negotiation (52.6 %). The obtained data points out that the rest of the features of the EFL Methodology sessions correspond to the constructivist classroom, though the percentage of their presentation is a bit lower, and varies from 47.4 % to 36.8 %. Taking this into account, the data shows that the key features of the constructivist classroom are typical of the EFL Methodology teaching.

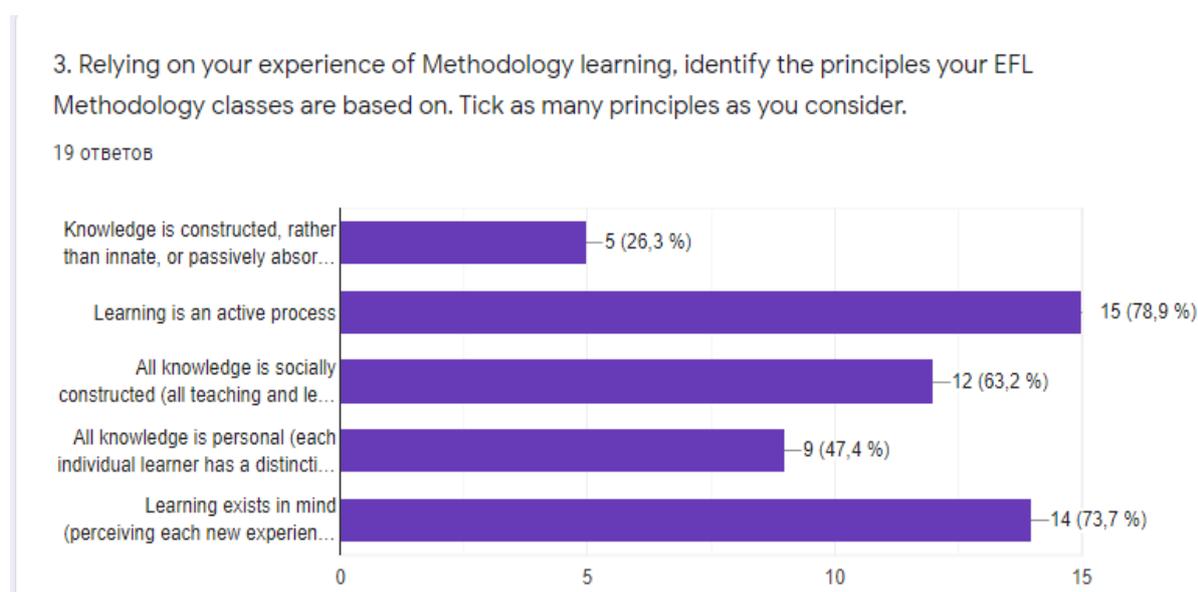


Figure 2. The results of students' answers to Question 2

According to *Figure 2*, we can see that the EFL Methodology classes are based on all the constructivist principles. Though, they are not equally presented. First comes the principle "Learning is an active process" (78.9 %). It is followed by the principle "Learning exists in mind" (73.7 %). The third place takes the principle "All knowledge is socially constructed" (63.2 %). The number indicated for the principle "All knowledge is personal" in percentage terms is 47.4 %. Surprisingly, the percentage representing the application of the principle "Knowledge is constructed, rather than innate, or passively absorbed" is the lowest (36.3 %). Nevertheless, the fact that both the curriculum analysis and survey results revealed the same data confirms that the constructivist approach is successfully applied in the EFL Methodology teaching.

The survey results also provide students' attitude to the constructivist approach applied in the EFL Methodology teaching. It is demonstrated in *Figure 3*.

4. Does the constructivist approach applied in the EFL Methodology teaching appeal to?

19 ответов



Figure 3. Students' attitude to the constructivist approach applied in the EFL Methodology teaching

The results are positive but not overwhelming. When compared they demonstrate that the constructivist approach applied in the EFL Methodology teaching totally appeals to 52.6 % of the respondents, and 47.4 % of the students like this approach to some extent. The most remarkable result emerged from the data is that no one has a negative attitude to the constructivist approach applied in the Methodology course.

5. Will you evaluate the constructivist approach used for session design in the EFL Methodology course. Use the 10-point scale, where 10 is the highest point and 1 is the lowest



19 ответов

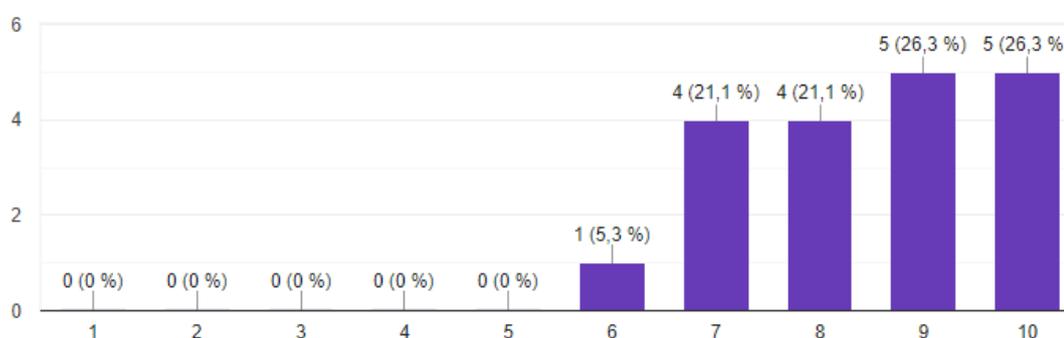


Figure 4. Students' evaluation of the constructivist approach applied in the EFL Methodology teaching

Figure 4 demonstrates the results of students' evaluation of the constructivist approach used for session design in the EFL Methodology course according to the 10-point scale, where 10 is the highest point and 1 is the lowest. As it is seen the evaluation results are quite positive.

The second research question this study aimed to answer was about the benefits of teaching EFL Methodology according to the constructivist approach. The following benefits were identified by the students:

- It helps me to connect new knowledge I can get with that experience I already

have. I find it very efficient for understanding methodological concepts which are basically built on practical knowledge.

- It makes learning process more interactive and engaging; it makes students be eager to share their ideas with others and to be creative.
- It promotes the development of thinking skills which is the main task of modern school.
- It gives the possibility to expand our knowledge and share it with others.
- It embraces me to think in-depth when exploring new information thereby I can understand any topic much better.
- It gives students much more motivation to learn the material or even find extra one.
- It makes learning more interesting; the information is absorbed automatically. There is no need then to learn something, because everything comes to your mind in the process of learning.
- It makes learning process understandable to everyone.
- It's active; develops advanced skills such as critical thinking, analysis, evaluation, and creation; promotes diverse viewpoints; encourages students to reflect, evaluate their work, and identify intermediary skills to acquire based on their needs.
- It helps to not only enlarge students' knowledge and develop skills, but to learn how to teach in an effective way as well.
- It helps students better understand and learn new material. This is a very interesting and useful method.
- It promotes active construction of our knowledge.
- It allows students to absorb information in a way that suits them best and makes it possible for one to actively take part in a process of studying, not relying solely on the teacher.

On average, the approach applied in the EFL Methodology teaching appeal to the students. They find it beneficial both for their personal and professional development. Nevertheless, one disadvantage of using such an approach was identified. But it is very subjective and does not illustrate the common viewpoint.

It can be concluded that the constructivist approach appeals to our modern views of learning. The principles it is based on and its key features correspond to the ideas of the New Ukrainian School and the Concept for the Development of Pedagogical Education. Being increasingly influential in the organization of the EFL Methodology classroom, the principles of constructivism can be applied in teaching and learning English and other subjects. Nevertheless, the application of the constructivist ideas raises the necessity for teachers' reflection on their practice and requires crucial changes in their beliefs about learning and teaching.

Therefore, further work in the chosen direction might concern the study of teachers' readiness to use the constructivist approach in their work.

REFERENCES

1. Bada, S. O. (2015). Constructivism Learning Theory: A Paradigm for Teaching and Learning. *ISOR Journal of Research & Method in Education*, 5(6), 66–70. doi: 10.9790/7388-05616670. URL: <https://iosrjournals.org/iosr-jrme/papers/Vol-5%20Issue-6/Version-1/I05616670.pdf>

2. Balasubramanian, N. & Wilson, B. (2007). Learning by design: Teachers and students as co-creators of knowledge. URL: https://www.researchgate.net/publication/228744002_Learning_by_design_Teachers_and_students_as_co-creators_of_knowledge
3. Bevz, O., Gembaruk, A., Goncharova, O., Zabolotnaa, O. et.al. (2020). Metodyka navchannya angliiskoi movy. Osvitniy stupin bakalavra: tyпова програма: Ivano-Frankivsk [in Ukrainian].
4. Constructivist teaching methods. URL: https://en.wikipedia.org/wiki/Constructivist_teaching_methods#searchInput
5. Dagar, V. D. & Yadav, A. (2016). Constructivism: A Paradigm for Teaching and Learning. *Arts and Social Sciences Journal*, 7(4). doi: 10.4172/2151-6200.1000200. URL: https://www.researchgate.net/publication/308084623_Constructivism_A_Paradigm_for_Teaching_and_Learning
6. Elliott, S. N., Kratochwill, T. R., Littlefield Cook, J. & Travers, J. (2000). *Educational psychology: Effective teaching, effective learning (3rd ed.)*. Boston, MA: McGraw-Hill College.
7. Gembaruk, A. (2017). *Experiential Learning Cycle as the Basis for Session Design in New Methodology Curriculum*. Transformatsii v ukrainskii osviti i naukovykh doslidzhenniakh: svitovyi kontekst: proceedings of the International Scientific Conference. Uman: Vizavi, 1, 77–80.
8. Harjali, H. (2019). Building Constructivist Learning Environment at Senior High School in Indonesia. *The Qualitative Report*, 24(9), 2197–2214. URL: <https://doi.org/10.46743/2160-3715/2019.4001>
9. Kontsepsiia pedahohichnoi osvity: yak pidhotuvaty vchytelya, zdatnoho probudyty zhahu do piznannya? URL: <https://uifuture.org/publications/koncepcia-pedagogicnoi-osviti-komentar-eksperta-ukrainskogo-institutu-majbutnogo/> [in Ukrainian].
10. Kontsepsiia rozvytku pedahohichnoi osvity. (2018). [Concept of pedagogical education development: Decree of Ukrainian Ministry of science and education]. 16.07.2018 # 776. URL: <https://base.kristti.com.ua/?p=6396> [in Ukrainian].
11. Kucirkova, N. (2019). The Learning Value of Personalization in Children's Reading Recommendation Systems: What can we learn from Constructionism? *International Journal of Mobile and Blended Learning*, 11(4), 80–95. URL: <https://www.igi-global.com/gateway/article/full-text-pdf/226976>
12. Mercer, Rachel, “Teacher Training, Beliefs, and Use of a Constructivist Learning Environment Supported by Instructional Technology” (2020). *Dissertations*. 1792. URL: <https://aquila.usm.edu/dissertations/1792>
13. Mascolo, M. E. and Fischer, K. W. (2005). Constructivist Theories. *Theories of Development*. URL: http://www.academia.edu/8906476/Constructivist_Theories
14. McLeod, S. (2019). Constructivism as a Theory for Teaching and Learning. URL: <https://www.simplypsychology.org/constructivism.html>

СПИСОК ВИКОРИСТАНИХ ДЖЕРЕЛ

1. Bada S. O. Constructivism Learning Theory: A Paradigm for Teaching and Learning. *ISOR Journal of Research & Method in Education*. 2015. No.5(6). P.66–70. doi: 10.9790/7388-05616670. URL: <https://iosrjournals.org/iosr-jrme/papers/Vol-5%20Issue-6/Version-1/I05616670.pdf> (дата звернення: 02.02.2022).
2. Balasubramanian N. & Wilson B. Learning by design: Teachers and students as co-creators of knowledge. 2007. URL: https://www.researchgate.net/publication/228744002_Learning_by_design_Teachers_and_students_as_co-creators_of_knowledge (дата звернення: 02.02.2022).
3. Бевз О., Гембарук А., Гончарова О., Заболотна О. та ін. Методика навчання англійської мови. Освітній ступінь бакалавра: типова програма: Івано-Франківськ: НАІР, 2020. 126 с.
4. Constructivist teaching methods. URL: https://en.wikipedia.org/wiki/Constructivist_teaching_methods#searchInput (дата звернення: 02.02.2022).
5. Dagar V. D. & Yadav A. Constructivism: A Paradigm for Teaching and Learning. *Arts and Social Sciences Journal*. 2016. No 7(4). doi: 10.4172/2151-6200.1000200. URL: https://www.researchgate.net/publication/308084623_Constructivism_A_Paradigm_for_Teaching_and_Learning (дата звернення: 02.02.2022).
6. Elliott S. N., Kratochwill T. R., Littlefield Cook J. & Travers J. *Educational psychology: Effective teaching, effective learning. 2000. (3rd ed.)*. Boston, MA: McGraw-Hill College.
7. Gembaruk A. *Experiential Learning Cycle as the Basis for Session Design in New Methodology Curriculum*. *Трансформації в українській освіті і наукових дослідженнях: світовий контекст: матеріали Міжнар. наук. конф. (Умань, 25–26 травня 2017 р.)*. Умань: Візаві, 2017. Ч. 1. С. 77–80.
8. Harjali H. Building Constructivist Learning Environment at Senior High School in Indonesia. *The*

- Qualitative Report*. 2019. No 24(9). 2197–2214. URL: <https://doi.org/10.46743/2160-3715/2019.4001> (дата звернення: 02.02.2022).
9. Концепція педагогічної освіти: як підготувати вчителя, здатного пробудити жагу до пізнання? URL: <https://uifuture.org/publications/konceptcia-pedagogicnoi-osviti-komentar-eksperta-ukrainskogo-institutu-majbutnogo/> (дата звернення: 02.02.2022).
 10. Концепція розвитку педагогічної освіти. URL: <https://base.kristti.com.ua/?p=6396> (дата звернення: 02.02.2022).
 11. Kucirkova N. The Learning Value of Personalization in Children's Reading Recommendation Systems: What can we learn from Constructionism? *International Journal of Mobile and Blended Learning*. 2019. No 11(4). P. 80–95. URL: <https://www.igi-global.com/gateway/article/full-text-pdf/226976> (дата звернення: 02.02.2022).
 12. Mercer Rachel. Teacher Training, Beliefs, and Use of a Constructivist Learning Environment Supported by Instructional Technology. 2020. Dissertations. 1792. URL: <https://aquila.usm.edu/dissertations/1792> (дата звернення: 02.02.2022).
 13. Mascolo M. E. and Fischer K. W. Constructivist Theories. *Theories of Development*. 2005. URL: http://www.academia.edu/8906476/Constructivist_Theories (дата звернення: 02.02.2022).
 14. McLeod S. Constructivism as a Theory for Teaching and Learning. 2019. URL: <https://www.simplypsychology.org/constructivism.html> (дата звернення: 02.02.2022).