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The Teaching Process Applying the Flipped Classroom Model in Teaching Science Subjects Oriented Towards Developing Self-Learning Capacity for Primary School Students

Nguyen Thi Duong[1], Nguyen Bao Hoang Thanh[2], Nguyen Minh Giam[3]
[1]Master's student, University of Science and Education - the University of Da Nang, Vietnam
[2]Associate Professor, Ph.D., University of Science and Education - the University of Da Nang, Vietnam
[3]PhD in Education Science, Faculty of Education, Thu Dau Mot University, Vietnam
https://orcid.org/0009-0002-9895-2079

ABSTRACT: The integration of the flipped classroom model into education has led to significant changes in both teaching and learning activities in various ways. Studies have shown that the most frequently reported advantage of the flipped classroom is the improvement of student learning performance, resulting in numerous positive educational outcomes. Recognizing the benefits that the flipped classroom model brings to education, this paper presents a teaching process that applies the flipped classroom model in Science education, aimed at developing self-learning abilities for elementary school students. This model alters the traditional teaching sequence by shifting the knowledge acquisition phase to self-study at home, while classroom sessions focus on practical activities and interaction. The research developed a specific 5-step process to effectively implement the flipped classroom model in the topic "Human and Health" within the Grade 4 Science curriculum. The results indicate that applying this model not only helps students acquire knowledge effectively but also fosters self-learning capacity, self-management skills, and a sense of responsibility in learning.

KEYWORDS: Flipped classroom, Science subject, Self-learning capacity, Teaching Science, Primary School Students

1. INTRODUCTION

In the current context of education, developing self-learning capacity is an essential requirement to equip students with autonomy, creative thinking, and adaptability to the challenges of the digital age. The flipped classroom model is considered one of the effective teaching methods that enable students to actively acquire knowledge and apply it in practice. The teaching process applying the flipped classroom model in Science education, oriented towards developing self-learning capacity for primary school students, is designed to optimize the learning process and enhance students' self-learning skills. This model focuses on shifting the roles of teachers and students, where students independently study fundamental content through materials, videos, or learning resources before attending class. During class sessions, teachers guide, support, and organize practical activities, discussions, and problem-solving tasks for students to apply the knowledge they have learned.

This article aims to present a teaching process based on the flipped classroom model in Science education, thereby enhancing students' self-learning capacity. Through research, we propose a 5-step process applied to the topic "Human and Health" for Grade 4 students, including: (1) Preparing materials and defining self-learning tasks, (2) Students' self-study at home, (3) Checking and assessing self-study, (4) Organizing classroom learning activities, and (5) Providing feedback and evaluating learning outcomes. This process not only helps students master knowledge but also develops thinking skills, problem-solving abilities, and self-learning capacity, meeting the requirements of educational innovation oriented towards competency development.

2. RESEARCH RESULTS

2.1 Self-Learning Capacity

According to V. A. Cruchetxki (1977), in the book "Psychology of Learning", the concept of self-learning capacity is described as follows: "Self-learning capacity is an extremely important competency because self-learning is the key to acquiring knowledge with the modern perspective of lifelong learning. Only with self-learning capacity can one pursue lifelong learning. Self-learning capacity includes positive, independent, and creative thinking" [43]. Nguyen Canh Toan (1999) defines self-learning capacity as "a highly complex skill attribute. It includes skills and techniques that must be associated with corresponding motivations and

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habits, enabling learners to meet the demands set by their tasks." Self-learning capacity encompasses methods of learning, learning skills, and learning content: "Self-learning capacity is the integrated combination of learning methods and skills that influence content across a variety of situations and problems." Nguyen Minh Giam (2024) describes self-learning capacity as the ability of learners to actively, voluntarily, and conscientiously learn without dependence, based on subjective conditions such as needs, aspirations, willpower, and determination in learning, coupled with learning skills and a proactive attitude toward exploring and acquiring new knowledge effectively, solving learning-related problems, and applying knowledge to real-life situations. Self-learning capacity is defined as the learner's ability to be self-directed, independent, and voluntary in learning.

From our perspective, self-learning capacity is the ability to identify learning tasks in a self-disciplined and proactive manner; to set personal learning goals that require effort and determination to achieve; to employ effective learning methods; to adjust personal mistakes and limitations while carrying out learning tasks; and to actively seek support when encountering difficulties in the learning process. With self-learning capacity, learners can independently navigate their developmental paths, explore new fields, and quickly adapt to societal changes.

2.2 Flipped Classroom

The term "Flipped Classroom" refers to a teaching method that contrasts with the traditional classroom model. Lessons are learned at home, while homework is completed in the classroom (Lo & Hew, 2017). According to Lage et al. (2000), "Flipping or inverting the classroom involves shifting classroom activities outside of the classroom and vice versa." The flipped classroom changes the roles of both teachers and students. The essence of the flipped classroom model is to activate learners' learning processes, emphasizing the interaction between learners and the learning environment to update and enhance knowledge, transitioning from students' prior knowledge to the knowledge they need to acquire.

According to Zainuddin and Halili (2016), the flipped classroom enhances students' active participation and improves learning outcomes by focusing on application activities rather than passive theoretical delivery. Abeysekera & Dawson (2015) describe the flipped classroom model as one that "reverses" the sequence of teaching compared to traditional methods, meaning that what was previously done in the classroom is now done at home and vice versa. Research by Loizou and Lee (2020) demonstrates that the flipped classroom model fosters exploratory activities in the classroom, such as situation analysis, idea evaluation, and solution creation, which are effectively activated through self-study with materials at home. Foldnes (2016) further proves that combining the flipped classroom model with collaborative learning enhances student cooperation. The results show that students improve their scores and group interactions due to preparing knowledge through videos at home. The exchange of ideas and mutual support in the classroom optimizes the learning experience, outperforming traditional teaching methods.

Thus, the foundation of the flipped classroom model lies in the Blended Learning Approach, and its principle is the integration of technology-based teaching with direct instruction to maximize the advantages and minimize the limitations of both methods. The "flip" is understood as a pedagogical strategy shift, reflected in how content, teaching objectives, and learning activities are implemented, differing from the traditional teaching model.

2.3 Designing the Teaching Process Using the Flipped Classroom Model for the Topic "Humans and Health" in Science

2.3.1 Topic: "Humans and Health"

This topic focuses on fundamental and essential knowledge about human nutrition and health. This knowledge not only helps students better understand the role of nutrients and a balanced diet but also enables them to recognize nutrition-related diseases and learn how to choose safe food. According to the Grade 4 Science curriculum by the Ministry of Education and Training of Vietnam (2022), the topic "Humans and Health" consists of three core components: Nutrition in humans, Nutrition-related diseases, and Safety in daily life.

2.3.2 Teaching Process

To apply the flipped classroom model in teaching the topic "Humans and Health" in Grade 4 Science and to develop students' self-learning capacity, we have outlined a 5-step process as follows:

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Figure 1: Process of applying the flipped classroom model in teaching the topic "Humans and Health" in Grade 4 Science

Step 1: Teachers Prepare Materials and Define Self-Learning Tasks

Prepare learning materials to provide to students: Teachers create lecture videos based on the lesson content and prepare self-learning materials related to the topic "Humans and Health," including the role of nutrients, a balanced diet, nutrition-related diseases, and safe food.

Define self-learning tasks for students to complete at home before the in-class lesson: Teachers identify tasks for students, such as reading and understanding the lesson content, answering questions, and completing exercises after self-studying the material.

Assign tasks and guide students on how to study at home: To prepare for the upcoming lesson, teachers distribute the prepared materials (via designated online platforms) and assign self-learning tasks to students. Teachers provide clear instructions on how to watch the lecture videos, read the materials, and take notes on key points.

Step 2: Students' Self-Learning at Home

Read materials and watch lecture videos: Students read the textbook and self-learning materials provided by the teacher, and watch the teacher's lecture videos. They are encouraged to take notes on what they have learned and any points they need further clarification on. Students should record the basic content they read and understand in their notebooks.

Complete assignments before class: After reading the textbook, materials, and watching the videos, students must answer the questions and complete the assignments as instructed by the teacher. This helps them consolidate their knowledge and prepare for in-class activities. For theoretical questions and assignments, students should respond based on their understanding after reading the textbook and reference materials, and record their answers in their subject notebooks. For practical assignments, students must complete tasks to produce outputs, such as drawing mind maps, creating charts, or performing calculations, and document these in their subject notebooks.

Step 3: Checking Students' Self-Learning at Home

To ensure the effectiveness and consistency of students' self-learning while motivating them, their self-learning tasks completed at home must be checked and evaluated.

Check the completion of questions and assignments: Teachers review the assignments and questions completed by students at home. This can be done by collecting students' notebooks, using online learning platforms for students to submit their work, or conducting online quizzes.

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Conduct quick in-class checks on students' understanding of the lesson content: Begin the class session with quick assessment activities, such as multiple-choice questions, learning games, or short quizzes, to evaluate students' understanding of the content they studied at home. For example, teachers can use online learning applications for students to answer multiple-choice questions directly in class or organize brief discussions to check students' knowledge.

Provide feedback and evaluate students' self-learning: Through students' presentations and answers to questions, teachers provide feedback, highlight key learning objectives, and evaluate the results of students' self-learning efforts. This ensures students are on track and helps them address any gaps in their understanding.

Step 4: Organizing Learning Activities During Classroom Sessions

After checking students' self-learning, the teacher asks students to present any questions or difficulties they encountered during their self-study, particularly on challenging or unclear content. The teacher records these questions and issues on the board and organizes group discussions for students to share what they have learned and address these concerns. The teacher acts as a guide and facilitator during the discussion. For any content that students cannot answer accurately or clearly, the teacher provides explanations and ensures the knowledge is thoroughly clarified.

Practical and experimental activities: The teacher organizes hands-on activities and experiments to explain and demonstrate the scientific content of the lesson. For example, students may practice classifying food groups or conduct experiments to test the nutritional content of food.

Problem-solving activities related to real-life situations: The teacher presents real-life scenarios for students to apply their knowledge to solve problems. For example, students may create a nutritional plan for a peer who is underweight and frail.

Step 5: Evaluating and Providing Feedback on Students' Self-Learning Results

Use assessments to evaluate students' understanding of the lesson: Teachers administer tests or quizzes to assess students' comprehension of the lesson content.

Evaluate students' questions and assignments during self-learning: Teachers review and assess the quality of students' responses and assignments completed during their self-study.

Assess students' self-learning capacity using a rubric: Teachers evaluate students' self-learning abilities based on a set of criteria, such as the completeness of tasks, engagement, and independent problem-solving skills.

Provide feedback to students: Teachers offer personalized feedback to each student based on their self-learning results and practical activities. They encourage students to self-assess their learning process and suggest measures for improvement.

By applying the 5-step flipped classroom model in teaching the topic "Humans and Health" in Grade 4 Science, teachers can effectively develop students' self-learning capacity. This approach helps students actively master knowledge, enhance practical skills, and apply what they learn to real-life situations. The flipped classroom model not only improves teaching effectiveness but also fosters students' holistic development, preparing them to face future challenges with confidence.

2.4 Illustration of the Teaching Process Using the Flipped Classroom Model for the Topic "Humans and Health" in Grade 4 Science

Here, we illustrate the teaching process for the lesson: "The Role of Nutrients for the Body," applying the flipped classroom model for the topic "Humans and Health" in Grade 4 Science. Lesson Plan: Nutrient groups in food and their roles for the body.

2.4.1 Learning Objectives

After completing this lesson, students should achieve the following:

Natural Science Competency: Identify the nutrient groups in food; Explain the roles of nutrient groups for the body; Apply knowledge in real-life situations: Understand how to consume a balanced diet that includes all four nutrient groups.

General Competencies: Problem-solving and creativity competency: Actively participate in knowledge exploration activities; Communication and collaboration competency: Effectively carry out tasks during group activities; Self-regulation and self-learning competency: Actively engage in learning, explore, and independently master the lesson content; listen attentively and complete assigned questions and tasks.

Specific Elements of Self-Learning Competency: Ability to organize and manage learning: Plan self-learning activities and follow through with the plan; Understanding lesson content and completing learning sheets and assignments: Students independently read

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the textbook, watch the lecture video for Lesson 1: "The Role of Nutrients for the Body," and record the content on note sheets; Ability to solve problems independently: Research additional resources about foods rich in nutrient groups and the roles of each to complete learning tasks; ask questions and resolve uncertainties; Ability to interact and discuss: Engage in discussions about the lesson content both at home and in the classroom; Self-assessment skills: Reflect on and adjust their self-learning process.
Qualities: Compassion: Demonstrate a willingness to help peers complete tasks; Diligence: Work hard to think critically, answer questions, and complete assignments effectively; Responsibility: Maintain order, listen attentively, and study seriously.

2.4.2 Teaching Process Using the Flipped Classroom Model for the Topic "Humans and Health" in Grade 4 Science

2.4.2.1 Pre-Class Phase

In this phase, the teacher and students implement Step 1 and Step 2 of the teaching process. These steps include specific activities as follows:

Step 1: Teachers Prepare Materials and Define Self-Learning Tasks for Students

Preparation Activities

Teacher's Preparation: The teacher develops the lesson plan, designs the lecture using PowerPoint, and prepares the textbook, teacher's guide, along with teaching aids and materials for the lesson. The teacher creates a lecture video for Lesson 1: "The Role of Nutrients for the Body" in the Grade 4 Science subject and uploads it to an online platform (e.g., YouTube or Google Drive) for students to access. Additionally, the teacher prepares learning sheets, including: Note-taking sheets, Content sheets for the lesson, Homework sheets, Quiz sheets for practice and reinforcement, Application activity sheets.

Students' Preparation: Students prepare their textbook, notebooks, exercise books, and a computer or smartphone with internet access. Students independently study the new lesson content through the lecture video provided by the teacher on platforms like MS Teams, complete the learning sheets at home, and note any questions they need clarified during class.

Defining Self-Learning Tasks and Guiding Students in Self-Learning

Teachers Define and Assign Self-Learning Tasks: The teacher defines self-learning tasks for students to complete at home before the in-class lesson. These tasks include:

Task 1: Students read the content of the lesson "The Role of Nutrients for the Body".

Task 2: Answer the following questions: What types of food do we eat daily? Why do we eat those foods? Why are nutrients important for the human body? Name the main nutrient groups and describe the role of each group. Why should we consume foods rich in vitamins and minerals? Why is it necessary to eat food from all four nutrient groups?

Task 3: Complete the following practical exercises: Draw a mind map illustrating the main nutrient groups and their roles; Research and list at least five foods rich in vitamin C; Write a 50-word paragraph about the importance of protein for human health.

Teachers Guide Students in Self-Learning: The teacher provides instructions for students to read the lesson "The Role of Nutrients for the Body" in the textbook and any supplementary materials (if available). Students are guided to watch the lecture video provided by the teacher on an online platform, take notes on the lesson content using the prepared sheets, and access all materials via the provided online platform.

Step 2: Students Complete Self-Learning Tasks at Home with Teacher Guidance

Activity 1: Students read the lesson "The Role of Nutrients for the Body" in the textbook, independently study the lesson content, watch the lecture video provided by the teacher, understand the lesson, and complete their notes on the online sheets prepared by the teacher.

Activity 2: Students answer the questions in the exercise sheet provided via an online form. The teacher uses the class's Zalo group for students to submit their questions or concerns about the lesson content through the follow-up learning sheet. The group leader compiles the answers and questions from group members and uploads them to an online board (e.g., Padlet) for discussion. The teacher monitors the learning sheets online and scores students' responses based on the standard answers.

Additional Tasks: Students complete the following exercises in their notebooks to submit during the in-class session: Draw a mind map illustrating the nutrient groups and their roles; List at least five foods rich in vitamin C; Write a 50-word paragraph about the importance of protein for human health.

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2.4.2.2 In-Class Phase

In this phase, the teacher and students implement Step 3, Step 4, and Step 5 of the teaching process. These steps include the following specific activities:

Step 3: Checking Students' Self-Learning at Home

Activity: Warm-Up

Objective: Create a joyful atmosphere, stimulate curiosity and interest, and focus students' attention on the core content of the lesson.

Expected Outcome: Students participate in the game and answer the questions correctly; the teacher transitions smoothly into the lesson topic.

Implementation: Students watch a video about nutrient groups in food provided by the teacher on an online platform. Students participate in a learning game where individuals quickly answer questions based on images from the video. The teacher provides feedback, praises students, and introduces the main topic of the lesson.

Activity: Checking and Evaluating Students' Self-Learning Results

Objective: Assess students' self-learning process and outcomes as a basis for evaluating their self-learning competency, while consolidating and standardizing the knowledge they have self-studied.

Expected Outcome: Students can name the nutrient groups in food and explain the role of each group for the body.

Implementation:

Task Assignment: The teacher asks students to discuss in groups and present the knowledge they have self-studied at home.

Execution: The teacher randomly selects a student from each group to submit their note-taking sheet and present the prepared content. The group's note-taking sheet is displayed on the board for the entire class to observe. Students present their knowledge in their personal style. The teacher records students' questions and concerns on the board, assigning them numbers. The teacher reviews the number of students who completed the exercise sheets (submitted via the online form) and identifies the question most frequently answered incorrectly and the question most frequently answered correctly. The teacher then explains and clarifies misconceptions, ensuring students understand the content.

Exercise Sheets: After watching the lecture video and completing their note-taking sheets, students work on an exercise sheet consisting of 10 multiple-choice questions to test their self-learning knowledge. The teacher compiles the results, analyzes the most commonly missed question (e.g., students often mistakenly believe that one type of food contains all nutrients) and explains: each type of food contains only certain nutrients, and the body requires a variety of foods to develop comprehensively and avoid nutritional deficiencies. The teacher also highlights the question most frequently answered correctly to encourage students.

Evaluation: The teacher displays the correct answers for the note-taking sheets, allowing students to self-assess, discuss with the class, and find answers to their questions. This helps systematize knowledge and identify gaps in understanding to improve.

Feedback: The teacher evaluates students' responses and presentation skills (both written and verbal), points out areas for improvement, and praises students with good skills to encourage further development of speaking and writing competencies. This step ensures that students' self-learning efforts are validated, while also addressing gaps in their understanding and fostering a collaborative and reflective learning environment.

Step 4: Organizing Discussion Activities, Resolving Questions, and Systematizing Lesson Knowledge

Activity 1: Group Discussion and Resolving Questions

Objective: Address students' unresolved questions and promote critical thinking.

Expected Outcome: Students gain a clearer understanding of the self-studied content through group reports and discussions. Students comprehend challenging concepts through the teacher's explanations.

Implementation:

Task Assignment: The teacher compiles students' questions and common mistakes from the learning sheets and the online question board. The teacher then assigns tasks to students, asking them to discuss the questions in groups.

Execution: Students engage in group discussions. The teacher facilitates the discussion by encouraging students to find answers themselves and systematize the knowledge. The teacher provides support when students encounter difficulties, helping them complete their note-taking sheets.

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Reporting: Groups present their findings and opinions. The teacher addresses any unanswered or unclear points and provides additional explanations for questions that were not answered accurately.

Evaluation: Students evaluate one another based on predefined criteria, such as time management, the number of ideas contributed, and the completeness of the task. The teacher provides feedback, praises outstanding groups, and motivates other students to improve.

Systematizing Knowledge: The teacher summarizes the key points: The four nutrient groups: carbohydrates, proteins, fats, and vitamins/minerals; Their roles: providing energy, supporting body growth, and maintaining health; The importance of consuming a variety of foods to ensure balanced nutrition; Students cross-check their note-taking sheets with the teacher's summary and make necessary corrections. This activity ensures that students clarify their understanding of the lesson, strengthen their critical thinking skills, and collaboratively consolidate their knowledge for better retention and application.

Activity 2: Practice and Reinforcement

Objective: Systematize and reinforce knowledge about the roles of nutrient groups.

Expected Outcome: Students review and memorize the basic knowledge and complete a multiple-choice quiz.

Implementation:

The teacher assigns a multiple-choice quiz via an online form, and students complete it within the allotted time. The teacher displays the quiz questions on slides for in-class review and provides feedback on the results with correct answers.

Activity 3: Applying Knowledge

Objective: Enable students to apply their knowledge in real-life scenarios, such as maintaining a balanced diet (consuming all four nutrient groups) and guiding their families toward healthy eating habits.

Expected Outcome: Students complete an application exercise at home using Learning Sheet #3.

Implementation: Teachers assign tasks through online forms and students complete and submit them on time. Teachers provide support when needed and assess students' application work. These activities help students consolidate their understanding of the lesson content while encouraging them to apply their knowledge to real life situations, fostering both self-learning and practical skills.

Step 5: Evaluating and Providing Feedback on Students' Self-Learning Results

Evaluation of Students' Self-Learning Results

The teacher carefully examined the learning sheets that students had completed during their independent studies at home, analyzing the accuracy and completeness of the answers provided and assessing the level to which each task was fulfilled. A multiple-choice test was also administered to gauge students' comprehension of the lesson, with questions ranging from fundamental knowledge to applicable skills in order to offer an impartial view of understanding. Furthermore, a rubric was applied to evaluate self-directed learning abilities. This rubric considered factors such as one's capacity for planning and organizing independent work, initiative in exploring resources, note-taking and problem-solving skills. The standards set by this rubric were clearly defined and transparently available, ensuring a fair evaluation.

Providing Feedback to Students

Personalized Feedback: The dedicated teacher carefully designed thoughtful feedback for each student, based on their individual assessment results and practical experiences throughout their learning journey. This feedback focused on three key areas: Strengths – highlighting what the student successfully accomplished; Areas for Improvement – pinpointing specific skills or knowledge that need further development; and Recommendations – providing tailored suggestions to support their progress. This approach ensures that feedback is constructive and relevant to each learner's growth.

Encouraging Self-Evaluation: The teacher also guided students to reflect critically on their own learning process. This involved evaluating their task completion, identifying challenges they faced, and proposing solutions, such as improving time management or seeking additional resources. By fostering these self-reflection skills, the teacher empowered students to take ownership of their education.

Through these combined strategies of personalized feedback and self-assessment, students gain valuable insights into their academic progress while developing essential skills in autonomy and accountability, enhancing their overall educational experience.

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2.4.2.3 Post-Class Phase

Activity Objectives: Foster self-learning capacity by encouraging students to identify and consolidate the knowledge they have learned; Complete exercises that apply the acquired knowledge to real-life situations.

Expected Outcome: Students complete assigned application exercises, connecting prior knowledge to future lessons.

Implementation:

Teacher's Role: Assign extended application tasks that require students to apply the knowledge they have learned to practical scenarios. Monitor students' responses, provide support, and guide those who wish to expand their understanding further.

Students' Role: Complete the application exercises via the provided online link and submit their work. Provide feedback on the lesson through the online platform, continue discussing any unresolved questions, and explore additional knowledge related to the lesson.

This phase not only helps students systematize and solidify their knowledge but also trains them in self-learning and practical application. Through these activities, students enhance their individual competencies, prepare for new learning challenges, and build a solid foundation for holistic development.

3. CONCLUSION

The article has designed a teaching process using the flipped classroom model for the topic 'Humans and Health' in the Science subject. To specify this process, the article illustrates a teaching procedure that employs the flipped classroom model for the topic 'Humans and Health' in 4th grade Science. Finally, the paper proposes a teaching process using the flipped classroom model for the topic 'Humans and Health' in 4th grade Science. Based on these findings, we recommend expanding the application of the flipped classroom model to other subjects and continuing research to optimize this method in education. The integration of technology with modern teaching methods will be a crucial direction for enhancing the quality of education and developing students' learning capabilities in the future.

REFERENCES

1. Ministry of Education and Training of Vietnam (2022), Science 4, Connecting Knowledge and Life, Vietnam Education Publishing House.
2. Nguyen Minh Giam (2024), Competency-Oriented Teaching to Develop Self-Learning Ability in Chemistry with the Support of Artificial Intelligence Technology, Doctoral Dissertation, Hanoi University of Science and Technology.
3. Loizou, M., & Lee, K. (2020). A flipped classroom model for inquiry-based learning in primary education context. Research in Learning Technology, 28, 1-14.
4. Nguyen Canh Toan (1999). Discussion on self-learning experiences. Education Publishing House, Hanoi.
5. Abeysekera, Dawson (2015), Motivation and cognitive load in the flipped classroom: definition, rationale and a call for research. Higher Education Research & development, 34 (1), 1-14. doi: 10.1080/07294360.2014.934336.
6. Foldnes, N. (2016). The flipped classroom and cooperative learning: Evidence from a randomised experiment. Active learning in higher education, 17(1), 39-49.
7. Zainuddin, Z., & Halili, S. H. (2016). Flipped classroom research and trends from different fields of study. *International review of research in open and distributed learning*, *17*(3), 313-340.
8. Barbara W.E.& Anderson V.J.(1998). *Effective grading: A tool for learning and assessment. San Francisco: Jossey-Bass*.
9. Cruchetxki, V. A., (1977), *Psychology of Learning*, NXB Nauka, Moscow
10. MJ. Lage, G.J. Platt, and M.Treglia (2000). Inverting the classroom: A gateway to creating an inclusive learning environment. The Journal of Econmic Education, 31(1):30-43

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