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Application of Information Technology in teaching integrated topics to practice reading comprehension skills for primary education students

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Article Info

Abstract
Based on the directive perspective on the application of information technology in teaching, the theoretical framework of integrated topic teaching, and the development of reading comprehension skills for students majoring in Primary Education, the article investigates the current situation and proposes measures to innovate teaching methods by incorporating information technology and integrated topic teaching to improve reading comprehension skills for students majoring in Primary Education. The research results show that students are proactive and actively engage with texts, practice analyzing and understanding the content conveyed in the texts, and practice creating similar texts to enhance their reading comprehension skills.

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1. Introduction

The 8th Conference of the Central Committee of the Party, term XI, approved Resolution No. 29/NQ-TW on "Comprehensive fundamental renewal of education and training", affirming the need to continue strongly renewing teaching and learning methods towards modernity, promoting active, creative and practical application of knowledge and skills by learners. In order to improve the effectiveness of teaching and learning, the Education sector is investing a lot of attention and resources in applying information technology in general, and teaching software in particular, into teaching activities [1].

The integrated topic teaching is a teaching method that focuses on combining different topics into one lesson to help students connect and apply knowledge to various fields. Instead of focusing on a single topic, integrated topic teaching creates a learning space related to many different topics, helping students develop diverse and flexible thinking skills. In addition, the integrated topic teaching helps students understand the relationship between topics and apply knowledge in real-life situations.

This article explores the application of information technology in the integrated topic teaching to improve reading comprehension skills for students majoring in Primary Education, on aspects such as: designing electronic lessons, learning games, online teaching, and assessment.

2. Content
2.1. Issues in applying information technology in teaching and integrating topic teaching
2.1.1. Application of information technology in teaching

Around the world, the application of information technology in education has been a topic of concern, especially in developed countries. The National Software - Coordination Unit (NSCU) was established from 1984, 1985 to provide computer education programs to high schools. Some subjects use teaching software such as: art, commerce, economics education, English, geography, health, history, math, music, religion, natural sciences, social sciences, and special education.

In Vietnam, Decision No. 117/QD-TTg 2017 on the Project to Strengthen the Application of Information Technology (IT) in Management and Support for Teaching and Scientific Research, aims to improve the quality of education and training during the period of 2016-2020, with a focus on the year 2025.

The Objective section states: Strengthen the application of IT to promote innovation in teaching and learning methods, testing, evaluation, scientific research, and management work at educational institutions within the national education system. IT is one of the important means that brings advantages in teaching, such as helping teachers to update information, renew teaching methods (from face-to-face to online, applying technology games,...), attract students' active participation in learning, and renew school management and teaching methods. Using software in teaching activities is also a requirement in renewing teaching methods to positively engage students in learning activities with the help of modern teaching aids.

2.1.2. Integrated topic teaching

In Vietnam, in the past 5 years, integrated teaching in the field of application and practice has been implemented at different levels of education. However, the integrated teaching in vocational education has not been extensively studied.

The integrated teaching in applied/practical training at the university level also has essential characteristics similar to integrated teaching at other levels of education since the cognitive target of learners is the content of sciences, the formation of skills, and the comprehensive development of learners, which also follows the law of integration. Therefore, the integrated teaching in applied/practical training should be a fundamental principle in guiding the training process.

Thus, in applied/practical training, there are different levels of the integrated teaching, such as module integration, where teaching progress can teach and learn the whole theory first, then practice; lesson integration, where theory is taught before practice, and practice is taught after the completion of the entire lesson's theory; level 3 is step-by-step integration of task, in which knowledge and practical skills are taught integrated into each task's steps.

In addition, the integrated pedagogical approach can be applied to integrated lessons within competence modules; this can be demonstrated in both theoretical and practical lessons. This avoids limitations in the understanding of some teachers about integrated pedagogy.

Therefore, it can be seen that the integrated teaching in the process of organizing lessons within competency modules is the connection between teaching theoretical and applied specialized knowledge (theory lessons) with the guidance of the teacher's practical instruction and students' practice, aiming to develop certain vocational skills.

2.2. Solutions for Applying Information Technology in Integrated Teaching to Improve Reading Comprehension Skills for Primary Education Students
2.2.1. Designing Lessons Based on an Integrated Teaching Approach

To design lessons based on an integrated teaching approach aimed at improving reading comprehension skills for students majoring in Primary Education, the following steps can be taken:

- Determine teaching objectives: What are the objectives of the lesson? Are the objectives related to reading comprehension skills?
- Choose appropriate text: Select a suitable text that is aligned with the teaching objectives and is also appropriate for the students' abilities. The text can be an excerpt from a textbook, a news article, a short story, or a short film.

- Prepare teaching materials: Design teaching materials that are suitable for the chosen text. These materials may include exercises, comprehension questions, or interactive activities for students to participate in.
- Create integrated activities: Design integrated activities to help students apply their reading comprehension skills in real-life situations. For example, students may be asked to participate in a group discussion to discuss the ideas presented in the text or to perform a presentation to share their opinions.
- Evaluate the effectiveness of the lesson: After completing the lesson, it is necessary to evaluate its effectiveness by collecting feedback from students. This feedback can be collected through tests, assignments, or direct discussions with students.
- Through the above steps, we can design an integrated lesson to improve reading comprehension skills for students majoring in Primary Education. Applying the integrated teaching approach will help students apply their reading comprehension skills to real-life situations, thereby enhancing the effectiveness of their learning.

2.2.2. Creating educational games with the electronic software

a. Creating educational games with PowerPoint is an interesting and effective learning method, especially for students majoring in Primary Education to improve their reading comprehension skills

Here are some guidelines on how to create educational games with PowerPoint:

- Define learning objectives: Before creating the game, you need to identify the learning objectives to be achieved. For example, improving reading comprehension skills for students majoring in Primary Education.
- Design the game layout: You need to design the game layout with slides related to the content and question learning. For example, introduction slides, question and answer slides, score calculation slides, and conclusion slides.
- Design questions: You need to design questions related to the content to be learned. The questions should be diverse and increase in difficulty to assess students' abilities. You can use single questions, multiple-choice questions, and true/false questions.
- Create sound and visual effects: You can create sound and visual effects for the game slides to attract students' attention.
- Test and adjust: After creating the game, you need to test it to ensure that it works well and meets the learning objectives. If necessary, you can adjust and modify the game to improve it.

By creating educational games with PowerPoint, students can learn in a more engaging and effective way, while also developing diverse and creative reading comprehension skills.

b. Creating games using the Quizzes feature in Edmodo technology software

The Quizzes feature in Edmodo allows teachers to create a diverse question bank for quizzes, including multiple choice, true/false questions, short answer, fill-in-the-blank question, and more. With the exception of short answer, all questions are automatically graded and student scores are updated in

the system. This allows teachers to save time grading and students to receive immediate feedback upon completion.

▪ + The Badges feature allows teachers to recognize students' progress, effort, and commitment with available badges.

For example, quiz question packages can be developed for the Communication activities with teaching modul to improve students' reading comprehension skills.

Table 1

No.	Multiple-choice questions content	Number of sentences
1	Communication and forms of communication	15
2	Functions of communication activities	10
3	Elements of communication activities	25
4	Types of speech and communication activities	5
5	Process of generating and receiving speech in communication activities	15

2.2.3. Application of the information technology in online teaching integrated topic to improve the reading comprehension skills for students

Currently, the online teaching has become a popular teaching method worldwide. The online teaching allows teachers and students to interact directly with each other through online platforms such as Google Classroom, Zoom, Microsoft Teams, or other online learning applications. Through this, students can access a variety of educational materials and activities from teachers around the world.

Steps for applying information technology in online teaching:

Step 1: Determine the objectives: Applying information technology in online teaching to support or replace direct teaching at educational institutions, to improve the quality of teaching and complete the general education program; develop the capacity to use information technology and communication in teaching, promote digital transformation in the education industry, and at the same time expand opportunities for accessing education for students, creating conditions for learning anytime, anywhere.

Step 2: Identify the corresponding software to use: The software that the author chooses to design the lesson plan is PowerPoint.

Step 3: Design specific illustrations for online teaching

After using PowerPoint to design the e-lesson, it can be exported as a video and used as an online learning material for students. For the reinforcement part, a quiz can be created through the Quizizz software for students to do at home.

2.2.4. Application of the information technology in testing and assessing reading comprehension skills for students

The testing and assessment is one of the important steps in the educational process to evaluate learners, verify the teaching activities of teachers, thereby evaluating the entire teaching and learning process.

Steps for applying information technology in testing and assessment:

Step 1: Determine the objective: There are many forms of testing and assessment. However, the general objective is to test and assess the learning outcomes of each student, their thinking and problem-solving skills. From there, teachers also have a practical basis to recognize the strengths and weaknesses of themselves and their students, and to improve the quality and effectiveness of teaching and learning.

Step 2: Determine the corresponding software to use: The software that we choose to design the knowledge reinforcement step is Quizizz.

Step 3: Design specific multiple-choice questions with Quizizz software.

* The design process is as follows:

Step 1. Register for an account

Step 2. Create a class

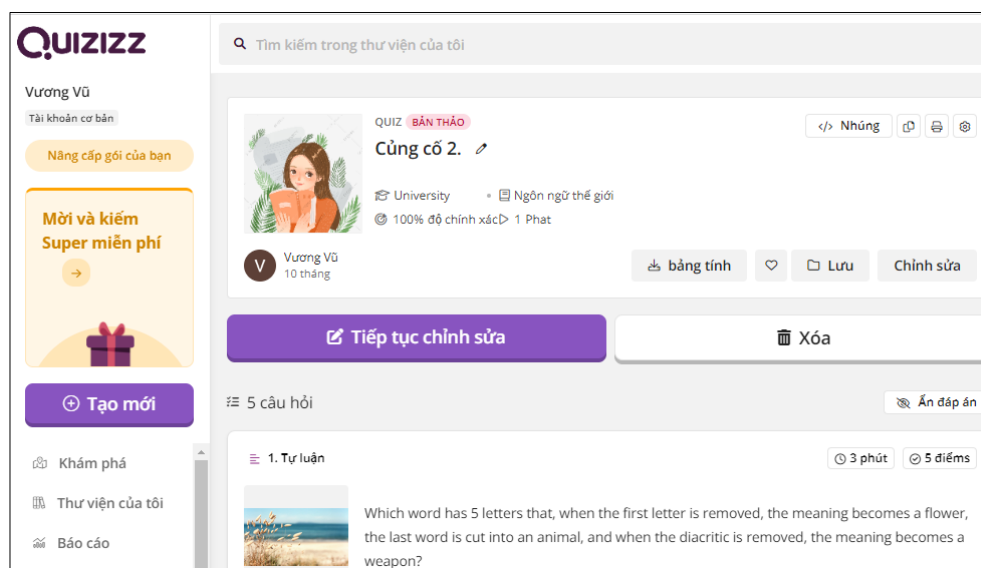**Step 3.** Create a quiz

Step 4. Set up the quiz

Fig 1: The test after the class is designed on the Quizizz softwar

3. Conclusion

After analyzing the arguments regarding the application of information technology, integrated topic teaching, and reading skills, we have proposed some measures to promote the application of information technology in the integrated teaching to train the reading comprehension skills for students majoring in Primary Education at Tan Trao University. The activities of researching, approaching, and developing students' reading comprehension skills before, during, and after class have been enhanced. Students actively

access the text, practice the requirements of the lesson, understand deeply the content of the text conveyed, draw the reading comprehension method according to the topic, and practice creating similar texts. In particular, the deep understanding of language, the ability to understand multidimensional content issues with interdisciplinary and intercultural perspectives, and the expanded multidimensional class scope - the barrier-free class has helped students majoring in the primary education become interested in skills training, nurturing their love for Vietnamese language and their profession.

4. Acknowledgement

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