The Incorporation of Higher Order Thinking Skills in a Blended EFL Reading Classroom

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Abstract

Despite many researches on blended learning approaches in developing higher order thinking, there is a gap in understanding the application of HOTS in EFL teaching. This study aimed to revealing the incorporation of higher-order thinking skills in a blended reading classroom for EFL students at a Chinese public provincial university. The study used the qualitative method through a case study approach. With a purposive sampling technique, and EFL teacher and the first semester English major students participated in the study. Observation, documentation, and semi-structured interview were conducted to collect the data which was then analysed qualitatively. It was found that informing the importance of critical thinking in reading, questioning from lower thinking order skills to higher thinking order skills, reviewing with feedback, synchronous and asynchronous discussion, encouraging cooperative learning, and applying reading in rewriting were used in the teaching process. This study has also provided some implications and suggestions for the future research.

Keywords: Reading Classroom, Higher-Order Thinking Skills, Blended Learning, Efl Teachers, Efl Students

Introduction

The integration of technology has become increasingly prevalent, revolutionizing traditional teaching and reshaping language acquisition.There is a growing demand for teachers to adopt new technological solutions in teaching for educational purposes (Szymkowiak et al., 2021). The concept of blended Learning emerges as a pivotal strategy, seamlessly integrating online learning with face-to-face instruction (Hadiyanto, 2019; Bouguebs, 2020). With its dynamic combination of virtual and in-person elements, blended learning accommodates this multifaceted approach by providing a diverse array of resources, interactive practices, and authentic language usage scenarios (Tosun, 2015; Ghazizadeh & Fatemipour, 2017; Klímová & Toman, 2020). The integration of blended learning into the instruction of English language teaching has garnered significant interest. Numerous studies have reported the application of blended learning to the instruction of various facets of English language skills (Li, 2021; Chen & Lei, 2022; Albatti, 2023).

Reading, according to Ali et al (2022), is an essential ability since it provides chances to communicate in English in many circumstances. Reading comprehension is a complex cognitive process for the achievement of success or learning outcome (Ismail et al, 2020). It

is not the same as reading in one's native tongue when reading materials in a foreign language. Students seldom are able to draw conclusions from the text and frequently have difficulty understanding its meaning. (Yunus et al., 2016). The normal reading procedure for many students usually involves going over each word in a paragraph to determine the idea being conveyed in each sentence (Gui, 2020). Many students have reading problems and English learning difficulties as a result of their poor English reading performance (Faruq, 2019; Mardianti et al., 2021). Hence, improving reading ability targeted interventions, not only addressing comprehension difficulties but also developing efficient reading strategies to enable learners to navigate texts.

According to the *National English Language Curriculum Standards* in China (2022), reading course should aim to cultivate students' abilities to comprehend English texts, and engage in critical thinking. However, due to the limited curriculum and class hours, teachers in reading courses are often unable to cover simultaneously explanations of text background knowledge, reading skills, and the cultivation of critical thinking (Zhu, 2023). Versatile approaches to learning are needed to incorporate higher order thinking skills into reading instruction to enhance students' comprehension. The more English reading activities students participate in the better reading skills will be improved (Pitaloka et al., 2020). In light of this, blended learning satisfies the needs of the students by allowing them to be engaged more in both face-to-face learning and online learning. Thus, this study investigates the teachers' incorporation of higher-order thinking skills in the blended reading classroom.

Literature Review
Teaching Higher-order thinking skills
The essential role of HOTS in EFL teaching has also been underlined by teachers, instructors, and researchers (Abosalem, 2016; Musyid & Kurniawati, 2019; Schlichter, 2023). Some pertinent studies have been conducted on the teachers' strategies for developing HOTS when they are teaching reading skills, such as applying HOTS concepts, visualizing, making inferences, using schemas, encouraging questions and discussions (Chinedu et al., 2015; Kuswandono & Indriyana, 2019). Schmidt et al (2021) believed that through learning reading comprehension techniques, the student would develop higher-order thinking abilities. This is consistent with the finding by Bouziane & Zohri (2019) who stated that cognitive skills, whether they are lower-order or higher-order thinking skills, need to be explicitly and purposefully taught. The view was in line with a study by Li et al (2022), which demonstrated that the experimental group considerably outperformed the control group when reading comprehension skills were explicitly taught to Chinese EFL learners. Ahiri et al (2013) investigated how learning tactics affected students' HOTS who had varying learning styles. According to their research, students' HOTS are impacted differently by contextual, competitive, and collaborative learning applications. To cater to students' different learning styles, teachers need to create an encouraging environment to increase comprehension (Makarova, 2014).

The use of Blended learning in developing HOTS
Since technology brings the speed of renewal of knowledge, individualized and innovative talents have become the request of the new era. People should know how to use technology as a tool, and possess competencies such as critical thinking skills, problem-solving skills,

communication and collaboration skills, and information and digital literacy skills (Saputri et al., 2019). There is a study showing positive perceptions towards problem-based learning and the blended learning environment in enhancing students' higher-order thinking, and learning outcomes and becoming more interactive (Alamri, 2014). Prahani et al (2020) developed a Blended Web Mobile Learning model (BWML) through the use of the Molearn application to improve students' HOTS. It was supported by previous researchers that one of the development tools for blended learning that was employed as a medium in the educational process was MoLearn with which students can engage themselves active in learning (Hariadi et al., 2019; Hariadi, 2022). In another study by Eliyasni et al (2019) who believed gaining independence was the capacity for problem-solving that students possess. Students were likely to connect their HOTS to problem-solving when they learned on their own.

Research on blended learning activities has grown significantly in recent years as educators explore effective ways to combine traditional and online instructional methods to promote 21st-century skills. Combining arguments in the classroom with technology-mediated learning enhances students' comprehension of the material while also fostering the development of their social and cognitive skills (Okaz, 2015). The majority of students expressed positive feelings about the environment and believed that a blended learning environment may help them to strengthen their critical thinking skills (Lu, 2021). This view was supported by Faraniza (2021) who made the point that interactions and communication between students and between teachers and students have drawn attention to integrated learning as a means of learning how to meet the problems of the twenty-first century. Building on these findings, the incorporation of blended learning as a method of instruction in teaching reading emerges as a strategic approach to further enhance higher-order thinking skills.

Methods

A qualitative research approach, specifically a case study, was employed in this study. Taylor et al (2015) state that qualitative methodology is research that brings descriptive data about people's words and behaviour, so it is concerned about the meaning people associate with things in their lives. It attempts to understand the human experience by finding out what participants think and feel, and explaining the phenomenon from the perspective of the participants (Varutharaju & Ratnavadivel, 2014). According to Yin (2003), a case study is used to develop a comprehensive, multifaceted understanding of a complicated subject in its real-life setting.

This study took place in English reading course at a public central university in China. The researchers chose this university because the English reading course here was carried out through blended learning which was done with the help of the Chaoxing online learning platform provided by the university. Therefore, the researchers were interested in deeply exploring the incorporation of higher-order thinking skills in the blended reading classroom for undergraduate EFL students at this university.

Participants

This study employed a purposive sampling strategy. Having access to important informants in the field who can assist in selecting cases with a wealth of information is necessary for purposeful sampling (Suri, 2011). The researchers selected this sampling technique because the data were required from the university EFL teachers who have rich experience in EFL teaching for more than 10 years. Therefore, one EFL teacher was selected from a Chinese university to participate in this study. The researchers sought permission from

the university before officially carrying out the study. The EFL teacher was informed that the observation was not intended for evaluation as it was merely descriptive. After the classroom observations, the teacher involved was interviewed to accommodate questions that the researchers could not ask during the classroom observation and teaching process.

Data Collection

The researcher used the non-participant observation method. The teacher was observed based on her teaching schedule. The researcher obtained the teacher's timetables in advance to make sure of no class interruptions. A face-to-face classroom observation checklist was used for collecting data during the observations. Face-to-face classroom observation protocol, interview protocol, and lesson plans are used as instruments in this study. The researcher has obtained the EFL teacher's permission to carry out the observation in the class and video-record all the lessons. Document analyses in the form of lesson plans were also used for triangulation purposes.

After the classroom observation, the EFL teacher received the interview. The researcher developed an interview protocol in order to gather more information about the application of higher-order thinking skills in reading instruction. The teacher was also interviewed to explore the factors that influence the incorporation of higher order thinking skills in the teaching process. In order to find the motivations behind the teachers' actions and application of higher-order thinking skills, the interview data were crucial to the triangulation process.

Data Analysis

The process of data analysis was carried out in accordance with the description by Creswell (2018), which entails managing and organizing the data into files, reading and memoing emerging ideas, describing and classifying codes into themes, developing and evaluating interpretations and representing and visualizing the data. These actions are then represented in a data analysis spiral image. By combining various data collection methods, such as observation, documentation, and interviews, triangulation was used to boost trustworthiness and ensure that the data and supporting evidence used in the conclusions were consistent.

Results
Informing the importance of critical thinking in reading

When the teacher was observed, she explained the concept of high order thinking to the students. It was essential to create awareness and provide students with the skill to thinking critically about the texts in reading. She encouraged students to think about the importance of critical thinking by asking questions which helped students better understand and internalize this concept. For example, she elaborated on the difference between comparison and contrast as follows

T: Critical thinking is very important. What is critical thinking in your opinion?
S1: reading with our own ideas.
T: yes, anything else?
S: have our own judgment, to compare different things.
T: Yes, compare different things. Good. Compare and contrast. Compare means to find the similarities, and contrast to find the differences. Anything more? why critical thinking is important for you?

S2: knowing the advantages and our shortcomings, and to enrich ourselves.

The teacher led students to realize that critical thinking would allow them to have self-awareness and would be beneficial to enhance their reading ability. It was important to create awareness and provide students with the skill to think critically on the topics given for reading. It was more like to engage students in self-reflection regarding their learning and personal growth. She guided students to evaluate the impact of mobile phones on human behaviour and reading habits.

T: Can you describe the picture?
S1: a phone is dragging the man.
T: a phone is dragging the man. ok, what is your opinion of it?
S2: I think, the phone likes a master, and the human is like a slave.
T: ok, excellent.
S2: it means the mobile phone takes control of young man's mind.
T: good. you have deeper insight. The first one describes the phenomenon, the picture, while she has deeper insights by using two words, master and slave. Mobile is a master while the human is the slave. Master is controlling the human slave.it well explains the relationship well. It is dangerous, I think it is a warning, the problem with the reading habits of students.

By connecting the image to the broader issue of mobile phone addiction and its consequences on reading habits, the teacher encouraged students to synthesize information from the picture and their own experiences. She engaged students in critical thinking by challenging them to go beyond surface-level descriptions and think critically about the relationship between humans and technology as well as the potential consequences of excessive mobile phone use. The above statements were strengthened by the interview with the teacher. She underscored that cultivating and applying critical thinking was crucial when dealing with complex information and changing environments.

T: large amount of information in front of them, they have to distinguish what is right or wrong. They are surrounded by a totally different environment unlike before. They have to make a judgement.

The convenience of accessing information through mobile phones brings about a wealth of input. However, relying solely on smartphones without having critical thinking skills can lead to blindly accepting information, rather than actively thinking, analysing, and evaluating. The teacher believed that students should be encouraged to cultivate critical thinking skills to better understand and utilize the information on their phones so that they can make wise decisions.

Questioning from lower-order thinking skills to higher-order thinking skills

The teacher led students to the details of the text by asking both LOTS and HOTS questions. She guided the students by asking LOTS questions to attract students' attention to the topic that they were going to discuss. The teacher believed that higher-order thinking questions could develop students' understanding to comprehend the text.

T:Did he accept the professor's criticism?
S:Yes.
T: He accepted the professor's criticism. How did you know that?

S: He discovered one new thing after another.
T: No, this is not too relevant. Then how did you know he realized his fault by the professor's criticism?
S: Because he was piqued, he was mortified. this shows his feeling guilty and realizing how just professor' criticism had been. And he also set himself to task with a will and discovered one after another.

The first question required students to judge whether the protagonist accepted the professor's criticism. In this instance, the teacher was seeking a straightforward, factual response, and the student provided a direct answer. It was lower-order questioning. The teacher further probed by asking how the student knew the character realized their fault through the professor's criticism. The student's response involved interpreting the character's feelings of guilt and recognizing the justice in the professor's criticism. This required a higher-order understanding of character motivation. The student not only identified the character's emotional state, using the words like "piqued" and "mortified", but also connected it to subsequent actions, such as the character setting themselves to the task with determination and discovering new things. This demonstrated an ability to go beyond surface-level observations and analyze the relationship between emotions and actions. The questions and responses in the provided dialogue are indicative of higher-order thinking questions. The above statements were strengthened by the interview with the teacher. She underscored that cultivating and applying critical thinking was crucial when dealing with complex information and changing environments.

T: *I give them a series of questions, from the lower to the higher, to check whether they have understood.*

This gradual questioning approach helped to assess whether students genuinely comprehended the discussed topic and whether they could provide more in-depth explanations and analyses. The teacher employed this teaching strategy to ensure a comprehensive understanding of the subject matter among students.

Reviewing with Feedback
At the beginning of the face-to-face classroom teaching, the teacher would review what they have learned and give feedback on the pre-reading tasks online. She spent some time reviewing what they have learnt and commented on the common errors made by the students. This can be seen from the observation below:

T: *We have discussed story narration in four steps. showing problems and conflicts, then the key person or thing, the turning point for change, and the enlightenment over action. Therefore, when you are reading the text, you have to analyse it, thinking about how did she solve her problem. A lecture is crucial to make her change. You see the sharp contrast. This is a good article. Some students did good jobs based on what they have learned. I give 100 marks. But one or two students didn't do well as they didn't' listen well. You have to read for the problem and the solution.*

The above content reflected general feedback on student learning outcomes. The teacher began by summarizing what has been discussed about story narration, outlining the four steps that reinforced the key concepts covered in the discussion. The task of reading for

the problem and solution encouraged students to delve into the text, identify problems, and think critically about possible solutions. In the overall evaluation of student performance, the teacher provided positive feedback, praising some students for achieving good results based on what they have learned and giving them a perfect score. However, the teacher also noted that one or two students did not perform well, and she displayed to the students the statistics from the online learning platform in the class as shown below:

She reminded some students that they did not complete their assignments satisfactorily and asked them why they did not do well on the assignments. By encouraging those students to reflect on the reasons behind this, she led them to think of possible solutions to improve. The teacher's approach involved not only presenting information but also encouraging students to think critically, reflect on their performance, and consider ways to enhance their learning—an approach that aligned with higher-order thinking cultivation strategies. This type of feedback helped guide students in understanding their strengths and areas for improvement, motivating them to achieve better results in their studies.

Synchronous and Asynchronous Discussion
The teacher used the online discussion forum to make students discuss certain topics. Incorporating discussion into a learning situation has the dual purpose of boosting students' online active learning and improving their participation in the face-to-face classroom. Word Cloud was used by the teacher to support engagement within the context of synchronous online discussions. For example, students were required to post their views on how reading shapes an individual on the discussion forum.

Word clouds are displayed very quickly in an appealing appearance with the diversity in composition, color, and typography. Students compared others' answers with their own as the Word Cloud visualized the most common responses or keywords. Through the discussion,

they have combined information from the word cloud with their prior knowledge and context which can be shown in the following dialogue,

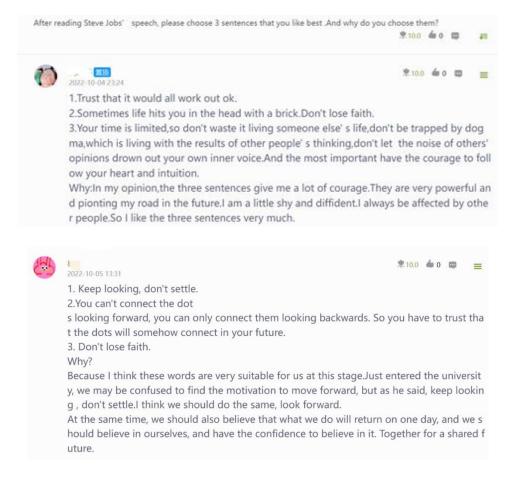*T: Why do you fill in with Full?*
S: Because I have read the sentence before.
T: ok, you have seen the sentence from his essay, of studies by Francis Bacon.......Reading makes a full man, conference a ready man, and writing an exact man. So full man? How do you interpret it here?
S:充实的。

The student explained the reason by associating the previously seen sentence with a specific literary work, *Of Studies*, written by Francis Bacon. This required the ability to make connections between different contexts and involved association and extension skills. Using word clouds in synchronous online discussions enhanced real-time visual engagement by dynamically displaying key concepts and frequently mentioned words. This interactive and immediate visual representation fostered active participation and facilitated quick identification of common themes within the ongoing discussion.

Unlike synchronous online discussion, asynchronous online discussion allows participants to engage in conversations at different times, providing flexibility and accommodating diverse schedules. After class, the teacher posted a question for online discussion after watching the video on Steve Jobs' speech at Sandford University on the Chaoxing online learning platform and all the students replied with their views on the discussion forum. Here are two examples of students' answers screenshots,

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The question required students not only to select three sentences they liked from Steve Jobs' speech but also to provide reasons why they chose those sentences. This discussion necessitated students to analyze and evaluate the content of the speech and express their personal preferences and reasons. Through such discussions, students were encouraged to think deeply about the text and extract what they consider the most important or impactful parts. In both responses, the two students were not only summarizing or recalling information but were also engaging in reflective thinking, making personal connections, and applying the concepts to their own lives. In the later interview, the teacher believed that face-to-face discussions sometimes couldn't get all the students involved due to time constraints, students were readier to be active online asynchronously.
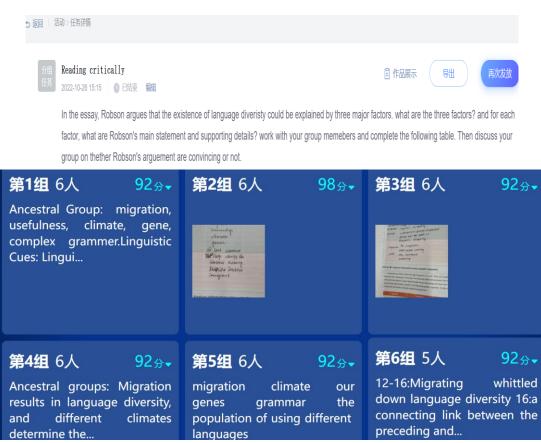
T: but the face-to-face classroom time is limited, I will select the most important to teach or discuss or check the exercise. After class, I will give some extensive reading as a supplementary. For example, on the Chaoxing app online, we will have online discussions and students post answers there.

Encouraging Cooperative Learning

The teacher used the cooperative learning instructional strategy, requiring students to work together in small groups to complete a shared task. When learning the text of Happy Prince written by Oscar Wilde, the teacher didn't teach them as usual. Rather, the whole class was divided by the teacher into nine groups and ten sections in advance, and students were required by the teacher to read the text thoroughly and give expressive role-play performances in front of the class.

This context offered students a task of how to transform a literary work into a performance, aiming to spark students' interest and guide them towards active learning. In this activity, the teacher prompted them to read carefully about the fairy tale. Students were both engaged in self-directed learning and collaboration to research the fairy tale, analyze characters, plot, and themes to find the best way to present it on the stage. Through group performances, students were collaborated, divided tasks, shared ideas, and discussed the performance strategies. This activity taught partnership and joint activities, students had the opportunity to show their creative and communication skills in front of the whole class. At the end of the performance, each group also had a discussion and shared their opinions towards beauty, love and sacrifice conveyed in the text.

In another example, on the Chaoxing online learning platform, the teacher divided students into 6 groups. Students discussed the text in groups, summarizing the three factors as well as providing the supporting details. The teacher gave each group grades according to their submitted answers. The screenshots are shown below,

During the interview, the teacher talked about her focus on cultivating students' critical thinking, cooperative learning, and problem-solving skills. This teaching approach aimed to inspire students' analytical thinking, enabling them to comprehend and apply knowledge more profoundly.

T: For some critical thinking or some activities like ... I will design some activities to discuss together, divided them into groups to find the answer on their own.

Applying Reading in Rewriting

Applying reading in rewriting involves combining the ability to comprehend reading with the creative process of writing. In the classroom, the teacher led students to analyse rhetorical devices used in the text which required students not only to comprehend the surface meaning of the text but also to delve deeper into the language structures and expressions employed by the author. The teacher introduced the definition of essay hook and its purpose and then she led students to analyze the strategy of essay hook in the text. This question raised by the teacher guided students to conduct a thorough analysis of the text identifying and understanding the specific rhetorical devices used by the author at the beginning.

T:Do you know the meaning of hook? a curved piece of wire for hanging things on, catching fish. Here it means to catch?
S:not fish…… reader.
T: readers who are reading the essay. The hook is used to opening the statement which is usually the first sentence or a couple of sentences, introductory sentences, attempts, to grab

the reader attention. You have to arouse the reader's interest. To keep them reading. So, this is a strategy.

After class, the teacher assigned the online assignment to rewrite the first paragraph of the essay with one strategy of the essay hooks. Students were required to start with a clear strategy and ensure coherence between the first and second paragraphs.

> 1.(简答题，100 分)
>
> Read TEXT ANALYSIS on page 39 of the textbook, and rewrite the first paragraph of this essay by using another different strategy.
>
> 学生答案：
>
> Have you ever wondered why there are so many languages in the world, and is it bad to speak one language? Imagine that people all over the world are going to hold a literary evening, but they all speak only one language, and the performance should be much the same. And if they had a variety of languages, wouldn't the show be more exciting and fascinating?
>
> 教师批阅
>
> 15:01
>
> < 查看详情
>
> Read TEXT ANALYSIS on page 39 of the textbook, and rewrite the first paragraph of this essay by using another different strategy.
>
> 学生答案：
> Strategy : quote
> Morris, a British writer, once said: "Language has both communicative and non—communicative functions. Language is a bridge for people to communicate. But compared with any other social customs, language has set a greater barrier between groups. And it can assimilate individuals to a certain tribe and prevent individuals from fleeing to another group." Of course, the power of babel is not just as simple as what he said, but he did explain the power of babel from two main aspects.
> Compare: David's strategy is to tell stories to expand the discussion, which is more vivid and interesting, attracts readers' interest, and enriches the content of the article;
> My strategy is to quote the words of Morris, echo with the title, cut to the theme directly, and be more concise, so that readers can quickly understand the main idea of the article.
>
> 教师批阅

The first student opted for a strategy of posing questions and using imagination, depicting a scenario where people worldwide use different languages in a literary evening to spark reader interest. On the contrary, the second student chose to quote Morris and engaged in further discussion by comparing different authors' strategies. By contrasting David's strategy with Morris's and emphasizing the conciseness of their strategy. Both student responses illustrate the application of reading in rewriting, while also showcasing the cultivation of higher-order thinking skills, including analysis, synthesis, and the selection of

different expressions. The purpose of the assignment was estimated by the teachers' responses in the interview as below

T: And even do some writing assignments, to make them apply and to use to produce something new or to do some rewriting.

According to the teacher, this process entailed transferring and applying the information obtained from reading to writing tasks as she intended to make students not only comprehend the reading materials but also apply the knowledge, understanding, and skills learned in a creative manner to produce new content to engage in rewriting.

Discussion

This study focused on the strategies to incorporate higher-order thinking skills in teaching reading via blended learning as it is related to EFL teachers and students. That interest centres primarily on literature concerning higher-order thinking skills in a blended learning classroom. Literature on teaching reading strategies abounds, but very little is related to an individual teacher's teaching strategies in implementing higher-order thinking skills in teaching reading via blended learning. Yen & Halili (2015) summarized that HOTS not only explicitly integrated with the teaching of specific content but also worked as general strategy used across topic fields, comparable to the findings from this study where the EFL teacher explained the concept of critical thinking. In a world where information is constantly evolving, higher-order thinking is essential for lifelong learning. Technology-enabled feedback has the potential to facilitate relational dimensions of the feedback process (Carless & Winstone, 2023). The teacher used the progress results on the Chaoxing learning platform to monitor and track students' various online performances, guiding students in areas where they struggle with comprehension and stimulating their reflection. This strategy concurred with the finding that the classroom learning environment must be structured in ways that the students feel secure such that the teachers openly and honestly make use of students' errors as an opportunity to help them develop higher-order thinking (Butakor,2016). According to Afflerbach et al. (2015), readers' higher-order thinking is marked by responsivity to both text and task. Reading abilities could be improved in active learning through full language activities including discussing, writing, and comparing their ideas (Haerazi et al., 2020). Through crafted learning activities, students are more likely to develop the ability to analyse and synthesize information. Teachers need to find ways to encourage advanced learning activities with challenging questions, tasks, and exercises so that students have room to develop their higher-order thinking (Nofrion & Wijayanto, 2018). Strategies are used in the study to facilitate students' ability to analyse text organisation, rhetorical devices, and the author's intent in the text. By instructing students to apply higher-order thinking skills when studying the English language, the students were motivated to analyse, evaluate and think creatively.

As information technology is considered to assist teaching, blended learning has become a learning program used with the objective of to optimize the learning outcome (Peng & Fu, 2021). The face-to-face classroom observation and online document findings showed that reading tasks and activities of higher-order thinking allowed students to have the opportunity to engage actively in the learning process, have discussions with their views, and complete cooperative group work. This was supported by the finding, that teachers need to choose which tasks to assign between face-to-face and online learning to promote social interaction, personalization and monitoring of students' learning (Boelens et al., 2017). The

students also were given autonomy as learners with critical thinking and self-reflection. Besides, the study confirms that teachers play an important role in cultivating higher-order thinking among students.

Conclusion

The seamless integration of online and offline learning environments through blended learning provides students with diverse cognitive challenges, enabling them to apply and expand their reading skills across different contexts. The application of higher-order thinking skills has resulted in a significant improvement in students' analytical and creative abilities. Students are engaged actively in the reading process, moving beyond passive reception of information and enhancing their overall reading proficiency. Furthermore, the role of teachers in the blended learning environment becomes increasingly crucial, evolving from mere information transmitters to key facilitators of students' development of higher-order thinking skills. Through skillful integration of online and offline resources, teachers can effectively support student learning, provide timely feedback, and stimulate interest in reading.

The findings of this investigation support cognitive constructivism which is about how people learn and how the thinking process occurs, regarding learning as an active process in which learners construct new ideas or concepts from reality. The practical implementation in the study is underpinned by the blended approach that support the constructivism, individual learning styles and most importantly, the goal of achieving 21st century skills of pursues the quality of teaching in terms of development of complex problem solving and critical thinking, communication and collaboration, and creativity. When design teaching activity, the teacher makes the context conform to the situation of problem which can be conducive to the meaning construction process of the students.

The findings from this single case study provide valuable insights into the experiences and practices of the examined teacher; however, it would not be appropriate to generalize these results to a larger population without further investigation involving a more representative and varied sample. Future research could delve deeper into exploring the impact of blended learning on higher-order thinking skills across different subjects and grade levels, employing more comprehensive assessment methods to measure student development in this process.

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