APPLICATION OF 6 THINKING HATS IN CLASS SETTINGS TO IMPROVE PRESENTATION SKILLS: AN ACTION RESEARCH APPROACH

Dr. Nguyen Thi Hanh
Hoa Binh University
Corresponding Author: nthanh@daihochoabinh.edu.vn

Abstract
This study aims to investigate how third-year English majors, perceived the application of the Six Thinking Hats model (Bono, 1992) in their 10-week presentation skills class at a non-public university in Vietnam. This action research aims to determine if the students' critical thinking could be improved while class objectives are achieved. A questionnaire survey with 29 students and a group discussion were used as the main data collection instruments to gain insight into the effectiveness of this action research. The findings include the perceived improvement of the observed 21st-century skills among students and confidence in presentation. Implications and recommendations for further studies are provided accordingly.
Keywords: *Six Thinking Hats, critical thinking skills, presentation skills, English majors.*

Áp dụng Sáu Mũ Tư duy trong lớp Kỹ năng thuyết trình: Nghiên cứu hành động

TS. Nguyễn Thị Hạnh
Trường Đại học Hòa Bình
Tác giả liên hệ: nthanh@daihochoabinh.edu.vn

Tóm tắt
Nghiên cứu này nhằm mục đích tìm hiểu nhận thức của sinh viên năm thứ ba ngành tiếng Anh về việc áp dụng mô hình Sáu Mũ Tư duy (Bono, 1992) trong lớp kỹ năng thuyết trình học trong 10 tuần tại một trường đại học ngoài công lập ở Việt Nam. Nghiên cứu hành động này nhằm xác định xem liệu tư duy phản biện của người học có thể được cải thiện trong khi lớp học vẫn đạt mục tiêu của môn học. Một khảo sát bằng bảng hỏi với 29 sinh viên và một cuộc thảo luận nhóm đã được sử dụng làm công cụ thu thập dữ liệu chính về hiệu quả của nghiên cứu hành động này. Kết quả nghiên cứu bao gồm sự cải thiện nhận thức về hai kỹ năng thế kỷ 21 được quan sát trong nghiên cứu cũng như sự tự tin trong thuyết trình. Nghiên cứu cũng chỉ ra ý nghĩa và khuyến nghị cho các nghiên cứu tiếp theo.
Từ khóa: *Sáu mũ tư duy, kỹ năng tư duy phản biện, kỹ năng thuyết trình, ngành Ngôn ngữ Anh.*

1. Introduction

Since the term heutagogy was coined by Hase and Kenyon (2000), self-determined learning has received increasing focus in education. This tendency has resulted in studies that focus not only on knowledge acquisition but also on the learning process. Given the global role of English, mastering speaking skills is increasingly important for EFL learners to participate in international academic and professional communities. However, oral presentations can be particularly challenging for EFL students, often inducing nervousness and anxiety due to linguistic limitations, psychological factors, and a lack of experience (Keo et al., 2025; Tareen & Faizi, 2021; Alharbi, 2021).

Critical Thinking (CT) is not only a desirable competency to global employers but also the skill that promote learning and knowledge acquisition (Trilling & Fadel, 2009).

Based on current practices at Hoa Binh University (HBU) and global educational trends, this research aims to explore how English-major undergraduates perceive the application of the Six Thinking Hats Principle (6TH) in a 10-week presentation

class. This new practice is aimed at strengthening both students' presentation and CT skills. To find out if this is possible, the author reviewed the literature related to the triangle relationship of 6TH, CT, and speaking; designed a questionnaire to collect opinions from the participants; and conducted a group discussion.

2. Literature review

The 6 Thinking Hats Model

The 6TH model, developed by Dr. Edward de Bono (1992), presents a structured yet flexible framework designed to enhance creative conversations and streamline abstract thinking for productive outcomes. This model employs six distinct colored "hats," each representing a different mode of thought, thereby ensuring a comprehensive exploration of various viewpoints and thinking styles. The primary advantage of this technique is its capacity to break down complex cognitive processes into manageable components, making it especially valuable for EFL students as they navigate the challenges of learning a second language. The six thinking hats are summarised in Table 1.

Table 1. Six Thinking Hats (Kruse, 2010:71)

White Hat Thinking: Just the facts	The white hat calls for information known or needed. When you ask for white hat thinking you are asking what information is needed, what is available and how it can be obtained.
Yellow Hat Thinking: Benefits. Pluses.	The yellow hat explores the positives and probes for value and benefit. The yellow hat role is for discussing ONLY the positive view of problems and possibilities for solutions.
Black Hat Thinking: Difficulties. Problems.	The black hat is logical and critical judgment: why something may not work. Spot the difficulties and dangers. The black hat points out what cannot be done. The hope is that the black hat will prevent us from making mistakes.
Red Hat Thinking: Feelings. Gut instinct. Intuition.	The red hat signifies feelings, hunches and intuition. When using this hat people can express emotions and feelings and share fears, likes, dislikes, loves and hats. They don't need to justify their statements.
Green Hat Thinking: Creativity. Ideas. Possibilities.	The green hat is an opportunity to express new concepts and new perceptions. People can generate alternative solutions or courses of action, put forward possible explanations or hypotheses, create new scenarios or future states, or generate possible designs.
Blue Hat Thinking: Managing the thinking.	The blue hat deals with controlling the thinking process. The blue hat is sometimes 'given' to one person, who controls which hat will be 'worn', hence controlling the type of thinking being used. The blue hat comments on the thinking being used, asks for conclusions, decisions, etc.

Critical Thinking skills

CT is defined as an intellectually disciplined process involving the active and skilled use of conceptualization, application, analysis, synthesis, and evaluation of information derived from observation, experience, reflection, reasoning, or communication (Scriven & Paul, 2007, p. 1). Several scholars, including Mishoe and Welch (2002) and Facione (2007), identify key attributes of a critical thinker, such as the ability to assess arguments, provide constructive feedback, dismiss erroneous or irrelevant information, analyze problems, and generate solutions. CT skills constitute a distinct set of cognitive abilities that can be developed through systematic training and practice (Snyder & Snyder, 2008), which is significant for students (López-Ruiz et al., 2021; Ho et al., 2018)

Critical thinking and Speaking activities

Goh and Burns (2012) highlight that speaking activities promote deep cognitive engagement, enhancing fluency while fostering essential problem-solving abilities. They advocate for techniques such as brainstorming, debates, problem-solving tasks, and opinion-gap activities, which simultaneously improve speaking proficiency and encourage CT through idea generation, evaluation, and argumentation. Similarly, Richards and Rodgers (2014) emphasize that analytical and evaluative speaking tasks prepare learners for complex communication scenarios, including negotiations and decision-making. These activities not only refine verbal skills but also develop cognitive abilities crucial for effective professional interactions.

There have been multiple studies on the relationship between speaking skills in general and presentation in particular. Although several authors recommended using the 6TH model for EFL learners (Kivunja, 2015; Zein & Butler, 2022; Lin, 2018, Kirkgöz, 2019; Dhanapal et al.,

2014), there has been almost no evidence in academia globally and locally showing that the 6TH model has been used for enhancing CT and oral communication skills in the EFL context. This action research is aimed at filling that gap by answering two research questions: i) What are HBU undergraduates' perceptions of 6TH impacts on their presentation skills? ii) What are HBU undergraduates' perceptions of 6TH impacts on their CT skills?

3. Methodology

Research methods and participants

This study employed action research as it facilitates positive changes in the classroom while being an integral part of the teaching process. The participants are a class of 29 Year-3 students at Hanoi-based HBU. These undergraduate English-majored students were taking a Presentation class. Students were to form 9 groups of 3 and a pair.

Research Tool and rocedure

The tool consists of a survey questionnaire and a class discussion. The study adapted the survey questionnaire from a study by Kelley et al. (2019),

examining two factors: CT (8 items) and presentation (3 items). The 5-point Likert scale ranges from 'Strongly Disagree' to 'Strongly Agree' to measure participants' level of agreement with each statement. The data was then analysed with SPSS 20. The reliability was checked after data were collected, having Cronbach's Alpha of 0.855. Group discussions are an effective method for collecting data, facilitating participants to exchange diverse perspectives, generate qualitative insights, and explore complex issues through interactive dialogue Kumar (2011). The class discussion revolves around the application of 6TH in the process of group work on the chosen expected research topic. Groups discussed how this model supported the development of the group presentation throughout 10 weeks of the course. The students are coded according to their group number (G#1 to G#10).

The presentation class lasted 10 weeks, focusing on presentation language with 2.5 contact hours/week. This semester, guidance for 6TH model was provided as additional elements. The proposed schedule was illustrated in Table 2.

Table 2. Schedule for presentation class

Week	Hat	Activity	Presentation language
1	All	Introduce the subject and 6TH model	Introduction, Giving Opinion, Pros and Cons, Comparing and Contrasting
2 - 3	Red	Grouping with Topics of Interest Introduce topics and express feelings	Introduction, Boby language, Giving opinion
4 - 5	Yellow, White	Present the advantages	Pros and cons, Listing, Providing Example
	Black, White	Present the disadvantages	Pros and cons, Listing, Providing Example
6	Green, White	View from other angles, suggest changes	Comparing and Contrasting
7	Blue	Summarise points	Making conclusion
8	All	Make Mini-presentations	Visual aids
9	All	Make group presentations	Group project plan/proposal
10	All	Complete survey questionnaire Discuss 6TH application	6 colors of 6TH practices

4. Findings and Discussions
Perceptions of 6TH impacts on presentation skills
Figure 1. Perceived impacts of 6TH on communication skills
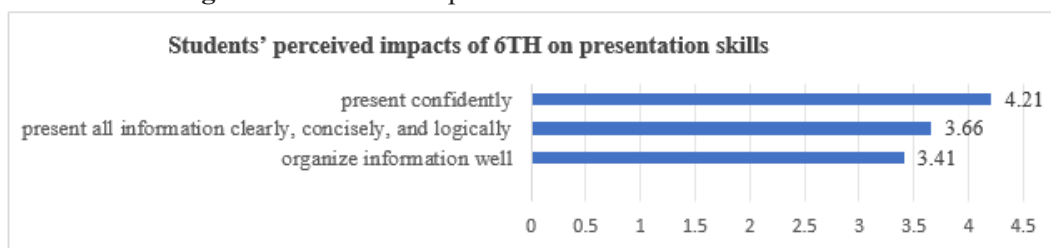
Most notably from Figure 1, the highest Mean (4.21) for "present confidently". The fact that 6TH helps students overcome this psychological barrier is a major success. This confidence sets the stage for other communication skills, allowing students to experiment and practice the language more naturally. This was also agreed as a Yellow point in the Group discussion in week 15. "*As we have built strong foundation for what we presented, we feel really confident with the content.*" (G#3), or "*With enough examples to support the main points we presented, we are open to follow-up questions, this had been a fear for us*" (G#4). Generally, students found themselves more confident as they had enough evidence for each points in the presentation. (G#1, G#9, G#10).

The item "present all information clearly, concisely, and logically" scored a Mean of 3.66. This is a complex skill, directly related to the ability to choose words with precise words (lexical precision), construct syntactic coherence, and use text linking elements (discourse markers, cohesive devices) to create cohesion and logic for speech or writing. This item share same agreement range with "Organize information well" (3.41). Presentation requires the ability to structure arguments, build outlines, and use language template frameworks to organize ideas. Although these two scores are positive, being lower than confidence suggests that the 6TH may have focused more on the aspects of oral practice and self-expression, while the skills of organising, analysing, and synthesising information require deeper training in linguistic thinking and reasoning, and still need more attention. A 'yellow' point in the Group discussion would share a similar view with the survey questionaire. Students felt at ease "*when presenting the benefits or the downsides of Google Lens in learning vocabulary*" (their project) G#1. The presentation is well structured so "*it's easy for memory*" shared G#3, G#4.

Although we practiced with the colored hats, each of the lesson we were instructed to apply the presentation language, such as listing, contrasting, or giving examples. Therefore, we could present the main points and transition between the parts at ease. – G#9

In Yellow Hat lesson, each of us contributed an advantage of Chatbots in essay writing. For example I found that Chatbots can give us a list of ideas, another would ask ChatGPT to provide a list of related vocabulary. Then we would practice individually presenting all the advantages of Chatbots with listing structure. We repeated the procedure in the Black lesson– G#7

It is interesting as we followed the same steps with you (G#7) in the Yellow lesson. However, in the next lesson, we pretended to be one presenter. The first started with "The primary downside of ChatGPT is…". The second added "Another minus point is …. " and the third member continued "Last but not least, ChatGPT does not provide reliable sources of information". Then back to the first "In short, ChatGPT posed at least three drawbacks." G#2

Perceptions of 6TH impacts on their critical thinking skills

Table 3. Perceived impacts of 6TH on CT skills

Item	Mean	Std. Deviation
revise drafts and justify revisions with evidence	3.41	0.67685
develop follow-up questions that focus or broaden inquiry	3.93	0.79871
create new, unique, surprising proposal	3.24	0.78627

identify in detail what needs to be known to answer an inquiry question	3.48	0.73779
evaluate reasoning and evidence that support an argument	3.66	0.66953
combine different elements into a complete proposal	3.86	0.91512
understand questions that lead to CT	3.79	0.77364
gather relevant and sufficient information from different sources	4.07	0.75266

According to Table 3, item "create new, unique, surprising proposal" stands out with a mean score of 3.24. This neutrality could imply several possibilities. It might indicate that this class could not facilitate the generation of genuinely novel or unexpected ideas. Alternatively, it could reflect the inherent difficulty and rarity of achieving "unique" or "surprising". A red hat said: *"We can organise the content, but the topics for the class projects sound quite familiar to us"* (G#5). A white hat shared, *"We stopped searching after 3-4 points, so we can not confirm the uniqueness of the project.".* (G#4)

In contrast to the perceived neutrality for fostering novel proposals, the remaining seven items consistently exhibit mean scores above 3.41, indicating a positive perception among participants regarding the effectiveness of 6TH in promoting CT skills. The highest mean score of 4.07 highlights a strong perceived positive impact on foundational research and information literacy skills, suggesting that 6TH encouraged students to synthesize knowledge from various inputs. Similarly, "develop follow-up questions that focus or broaden inquiry" (3.93) and "combine different elements into a complete proposal" (3.86) demonstrate high efficacy in promoting CT. Skills related to analytical reasoning, such as "understand questions that lead to CT" (3.79) and "evaluate reasoning and evidence that support an argument" (3.66), also implies robust agreement on the 6TH model's success. "identify in detail what needs to be known to answer a science inquiry question" and "revise drafts and justify revisions with evidence", with Means at 3.48 and 3.41, still comfortably fall within the "agreement" range. These scores suggest that the 6TH application is broadly effective in fostering CT skills, particularly those related to information acquisition, critical analysis, and structured proposal development within a collaborative context.

Class discussion also confirms positive perception of 6TH practice.

When a member came up with the idea of using Chatbots, the group looked at it from 6 perspectives: What data proves that this method works? (white); What's new and exciting? (yellow hat); What are some difficulties? (black); Can learners be interested or distracted? (red); How can this idea be improved? (green); Who will be in charge of testing? What is the roadmap? (blue) G#7 .

Generally, G#7 agreed with other groups. They shared with G#6 in how 6TH helped to *"look at the topic comprehensively (Strengths, Weaknesses, Emotions,...), or look for ways to practise differently (green hat)* G#6 , G#1. *"G#2 sequences of practice with Black and Yellow hats could be either Red or Green hats, they feel bored repeating or they simply want to try a new procedure."* (G#4)

Data collected from questionnaires and class discussion revealed a significant improvement in students' ability to present and to develop ideas, organize their thoughts, and express and defend their views-reflecting the development of CT skills. In line with research by Muhammadiyeva et al. (2020) and Goh & Burns (2012), the improvised tasks are thought to have improved both student fluency and cognitive engagement. Learners report that they are better able to develop ideas, organize arguments, and explain views. The study is consistent with Hughes' (2014) that additional support (classroom instruction) allowed students to have successful presentations on their own preferred topics.

In the context of Vietnam, this study expands on previous work by Ho et al. (2018) by providing practical evidence of integrating CT into English-speaking classes. Research shows that 6TH application has the potential to simultaneously promote oral communication and cognitive development in an English learning environment

(Kivunja, 2015; Zein & Butler, 2022; Lin, 2018; Kirkgöz, 2019).

5. Conclusion and Recommendations

The application of the 6TH model in presentation classes holds significant benefits for EFL students. By providing a structured framework for thinking, the model helps students improve the organization and structure of their presentation content through the White and Blue Hats. The Red Hat fosters increased awareness of the audience's perspective and encourages emotional engagement with the topic. The Black Hat enables students to identify potential weaknesses and refine their presentations. The Yellow Hat promotes a more positive and motivated outlook. The Green Hat stimulates creativity and the incorporation of innovative elements, making presentations more engaging. Finally, the Blue Hat equips students with a better overview of the overall presentation process, from preparation to performance. Ultimately, the 6TH model has the potential to significantly enhance EFL students' presentation skills, boost their confidence, and enrich their overall learning experience in presentation classes.

Implications for EFL educators include introducing the 6TH model early in presentation skills courses. This should start by providing explicit instructions and clear examples for each hat and then integrating the model into various stages of presentation preparation and delivery. A variety of activities, including individual work and group collaborations, could be utilised to facilitate the application of the hats. Students should be encouraged to reflect on their thinking process using the model. Teachers should foster a supportive and encouraging classroom environment where students feel comfortable taking risks and expressing diverse perspectives.

This study observed at least three limitations. Firstly, this action research involved a small group of participants. Another limitation is the lack of formal assessments on presentation skills. In addition, perceptions from teachers have not been taken into account, or perceptions of the challenges during the application process. Therefore, future research could investigate the long-term impact of using the 6TH model on EFL students' presentation skills and their overall language development. Studies could also explore the effectiveness of different hat sequences and integration strategies in diverse EFL learning contexts and from teachers' viewpoints. Or it is possible to compare the effectiveness of 6TH with other methods aimed at improving communication and/ or CT skills.

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