

# LEARNING MANAGEMENT USES CHATGPT TO IMPROVE STUDENTS' CRITICAL THINKING SKILLS IN HIGH SCHOOL (SMA)

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### Abstract

ChatGPT, with its intelligent ability to answer various questions, has generated various responses, including concerns from some parties. However, this technology can be used as a teaching aid for teachers, as long as it is managed well. This research uses a qualitative method with a case study approach, collecting data through interviews, observation and documentation studies. The findings show that the integration of ChatGPT in learning to improve students' critical thinking skills requires planning through teaching modules, classroom organization, collaboration between teachers, as well as motivation and supervision from teachers and school principals. Students experience critical thinking stages starting from identifying ChatGPT answers, identifying problems, exploring further information, confirming with other sources, to formulating conclusions.

**Keywords:** Learning Management, Chatgpt, Critical Thinking.

## A. INTRODUCTION

The current development of the digital era makes it easier for people, including students at school, to access technology and information. Conventional learning methods that only rely on textbooks and direct teaching from teachers are no longer considered effective for full use in learning. Students need learning methods that are more interactive, innovative and dynamic in order to maximize their learning potential.

Along with the rapid development of technology and information, society and the world of work are also experiencing significant changes. This requires education to adapt to these developments so that students can compete in the world of work in the future. Therefore, it is important for the world of education to continue to innovate in learning methods that can keep pace with developments over time. One innovation that can be carried out is by utilizing technology in the learning process, such as using ChatGPT as a virtual assistant that can help students obtain explanations and relevant sources of information. In this way, students can exploit the potential of technology to improve their understanding and skills.

ChatGPT is an AI (Artificial Intelligence) product that is currently widely used. ChatGPT or Generative Pre-training Transformer is a continuation of the ChatGPT application, namely artificial intelligence which works using a conversation format. Through this application, users can ask a question and then it will be answered automatically.

The GPT Chat application has now reached its 4th version, known as GPT-4. According to OpenAI (2023), the company developing the application, ChatGPT version 4 can solve difficult problems with greater accuracy, thanks to broader general knowledge and problem-solving capabilities. ChatGPT version 4 surpasses the previous version namely GPT-3.5 in its advanced reasoning capabilities. OpenAI (2023) claims that GPT-4 can produce safer and more useful responses. GPT-4 was 82 percent less likely to respond to requests for prohibited content, while 40 percent more likely to produce factual responses. Dwi (2023) describes several advantages of GPT-4, namely:

1. Can receive instructions accompanied by images, then create captions, classifications or analyzes according to request.
2. More creative and collaborative than ever. The language model can generate, edit, and iterate on creative and technical writing instructions such as songs, scenarios, or specific writing styles.
3. Able to handle more than 25,000 words per text, create long-form content, conduct long conversations, search searches, and analyze documents.

The rapid development of technology cannot be stopped by simply limiting access. Therefore, as humans, we must increase productivity and creativity and be able to adapt to changing times. Especially in the world of education, educators cannot ignore current developments because the main task of education is to provide students with knowledge that is relevant to the times they face. In this context, it is important for us to continue to update teaching methods and integrate technology in learning to create a learning environment that meets the needs and demands of the times.

According to Selvia (2022), technological advances create new methods that enable students to understand abstract material. With the help of technology, material that was previously difficult to understand can be explained in a more abstract way. Apart from that, the presence of ChatGPT can be considered a revolution in the education system, as explained by Winahyu (2023). The existence of ChatGPT allows difficult questions about certain topics in the teaching and learning process to be answered more quickly. Thus, utilizing technology, such as ChatGPT, in learning can be an innovative step that can increase the effectiveness and efficiency of learning. This provides students with the opportunity to develop their critical thinking skills, as they can easily obtain explanations and relevant sources of information in interactions with ChatGPT. With ChatGPT, students can learn interactively and in depth, increasing their understanding of various concepts and encouraging them to think critically in solving problems.

The Indonesian government through the Ministry of Education, Culture, Research and Technology of the Republic of Indonesia is currently trying to implement the Independent Curriculum. Decree of the Minister of Education and Culture of the Republic of Indonesia number 262/M/2022 concerning Guidelines for Curriculum Implementation in the Context of Learning Recovery, explains that the Curriculum structure in basic education and secondary education is divided into 2 (two) main activities, namely intracurricular learning and the project to strengthen the profile of Pancasila students. The Pancasila Student Profile in Wahyuningsih (2021) is an ideal profile of student character in Indonesia which must be realized by all parties through six key elements, namely having faith, being devoted to God Almighty, and having noble character; Global Diversity; Worked together; Independent; Critical Reasoning; and Creative. This key element is in line with 21st century skills, one of which is emphasizing critical thinking skills.

According to Sihotang (2018), critical thinking skills are the main capital in providing an assessment of the information received and are the basis for evaluating ideas, arguments and beliefs offered by thinkers and the general public. Critical thinking involves the ability to objectively analyze, evaluate, and conclude information in a rational and logical manner. This involves the ability to recognize the weaknesses and strengths of arguments, identify bias, relate the information provided to the broader context, and make decisions supported by relevant evidence. This skill is very necessary to select and obtain the right information and knowledge from various existing information sources. Therefore, critical thinking skills are very important to apply in learning.

Based on observations, the number of students participating in learning has not reached a minimum of 75%, so there is still a need for improvement so that students' abilities are more significant. A technological development that is currently being widely discussed and widely used is ChatGpt.

Using the ChatGPT application in learning has its own advantages and challenges. Therefore, good management is needed in its use. This includes designing and implementing learning that encourages students' higher-order thinking skills, improving technology access and infrastructure in high schools, and increasing teachers' abilities to use technology effectively. Apart from that, it is also important to supervise so that teachers' use of ChatGPT remains in line with learning objectives.

## **B. RESEARCH METHODS**

The research method used is qualitative with a case study approach. Data was obtained by conducting interviews with students, teachers and school principals. Apart from that, observation sheets were used to determine indicators of students' critical thinking skills and questionnaires to determine students' experiences using ChatGPT.

## C. RESEARCH RESULTS AND DISCUSSION

Students are starting to use ChatGPT in learning. From the results of interviews conducted, students learned about ChatGPT from social media. They have been using this sophisticated technology since 2022. Initially they used it because they were curious about what was being communicated on social media. They started using ChatGPT for various things, starting from asking about knowledge including subject matter, problems or school assignments, looking for discussion ideas, looking for minimal references on search engines, looking for focused answers that are difficult to find because there are many references provided by search engines.

Schools as a place for student education provide many opportunities and opportunities to learn, increase all knowledge through various methods including ChatGPT which is currently widely used. For this reason, learning management in schools needs to be carried out so that learning remains focused and produces true learners.

Upper secondary learning management using ChatGPT is carried out through:

### a. Planning

Planning is carried out by the teacher who is responsible for learning. However, sometimes teachers communicate with the school principal about what will be done so that the supervision process is directed and in line with learning objectives.

Several things that teachers do when planning lessons using chatGPT are:

- Ensure that learning facilities are available, namely gadgets connected to the internet
- Other learning resources, such as textbooks or articles
- Determine learning objectives
- Determine learning materials
- Create a learning plan
- Determine the evaluation that will be used

Learning planning is very important so that the learning process has a path that will lead students to obtain maximum learning results. In the independent curriculum learning planning process according to the Ministry of Education and Culture, these include:

- Analyze learning outcomes to develop learning objectives and the flow of learning objectives
- Planning and carrying out diagnostic assessments
- Develop teaching modules
- Adjustment of learning to student achievement stages and characteristics
- Formative and summative assessment planning.

Learning assessments are planned in advance to make it easier to see student progress.

### **b. Organizing**

Learning organization is carried out to ensure that the learning that will be carried out can facilitate all students to learn. By utilizing ChatGPT, teachers can make various choices of teaching methods and determine student learning conditions.

Learning using ChatGPT requires organization in terms of conditioning students in class. The methods used can be discussions, projects and experiments. Experimental methods that require students' prior knowledge can be used using ChatGPT. Apart from that, conditioning students in determining tools and materials as well as experimental methods can utilize ChatGPT so that students and teachers have more time to carry out experimental activities.

### **c. Staffing**

The use of learning that utilizes ChatGPT requires coordination with people who understand ChatGPT or frequently use chatbots. Because in the ChatGPT application, quite specific commands are needed so that the answer results are not too general.

Teacher forums in schools assign teachers who understand ChatGPT to share experiences and monitor its use during learning.

### **d. Motivation**

Learning by utilizing technology provides students with the opportunity to further explore things they do not yet understand. However, the use of technology can stifle and kill students' creativity. This is something that needs to be watched out for and given a change in mindset so that students continue to have enthusiasm for learning and skills that are useful for their future.

Based on the results of interviews with students, several categories of ChatGPT users were obtained, including:

- **Passive users:** these users very rarely use chatgpt in any case. He tried ChatGPT just to get rid of his curiosity because there was a lot of news spreading about ChatGPT's sophistication and intelligence. These users are among those who do not agree with ChatGPT's intelligence because the experience of the answers provided by ChatGPT does not satisfy these users. So there is no longer any reason to use ChatGPT even though many other people use it, but for these users the intelligence of ChatGPT which is widely talked about by other people is meaningless.
- **Early users:** these users include people who have just learned about ChatGPT. The experience when using ChatGPT for the first time was truly amazing because the answers given immediately explained what was asked. The explanation given is quite long and fulfills the outline of the question. These early users still want to continue using because they are curious about ChatGPT.

- Advanced users: these users have known about ChatGPT for a long time but don't use it often. ChatGPT is used when there is a lack of references or too many references obtained, making it confusing. The existence of ChatGPT can be used as another reference as additional knowledge.
- Active users: these users often use ChatGPT for any purpose, including inviting discussions. This is done after users frequently use ChatGPT and experiment with various commands entered. These users not only use ChatGPT for things related to certain material or theories but more than that. Sometimes users look for advice or reasons about planning in their lives, for example in making a daily agenda or certain ideas that require more intense discussion. By using ChatGPT, this user makes it feel like communicating with friends. So many things were revealed.

While using ChatGPT, students who are used to using it actually feel they have to include other sources apart from ChatGPT. This idea was obtained after frequently using ChatGPT and there were no sources provided by ChatGPT. So the thought of asking more questions and confronting other sources needs to be done. Based on the results of interviews, it was found that students who had just used ChatGPT did not gain critical thinking experience because they did not have much experience in responding to answers issued by ChatGPT. The following critical thinking skills emerge in students after using ChatGPT in learning:

- Identify Answers from ChatGPT  
The answers given by ChatGPT are based on prompts or commands given by the user. Using ChatGPT gives students experience of other answers than those usually found from search results on search engines.
- Found A Problem  
Sometimes the answers given by ChatGPT do not match what is expected. Even though at first use it was very good and convincing. It turns out that students realize that the chat feature is carried out on various topics so that ChatGPT answers lead in one direction. To overcome this problem, active users understand that it is best to use chatGPT one topic for each chat.
- Digging Information  
There is a chat feature that makes it easier to use ChatGPT, giving you the freedom to explore each topic so you don't branch out into other topic patterns.
- Confirm With Other Sources  
This is often used by students because ChatGPT does not include the source in the answer.
- find Conclusions
- ChatGPT provides an overview of the many references provided when searching via search engines.

Based on students' experiences using ChatGPT, motivation continues by providing students with opportunities to explore ChatGPT to provide other learning experiences. Sometimes students don't understand teacher explanations, but students can get other explanations from ChatGPT. However, it still needs to be given another perspective so that students don't just make decisions just by using ChatGPT.

### **e. Supervision**

The use of ChatGPT in learning requires supervision from various parties, including teachers and school principals. The ease of using ChatGPT can be used as a shortcut in carrying out tasks. The teacher as the person responsible for learning has a role in supervising usage so that students get more benefits from using ChatGPT.

Learning objectives must reach a high cognitive level so that students have the opportunity to learn more.

Supervision is carried out through formative tests so that students are encouraged to study harder.

Supervision is also carried out by the school principal to ensure that learning is running according to its objectives. Supervision is carried out through supervision to assist teachers in overcoming problems that occur in the classroom.

## **D. CONCLUSION**

If students find it easy to obtain various information, they need to receive guidance so that this convenience does not become boring but becomes an opportunity to improve critical thinking skills.

Using ChatGPT in learning to improve critical thinking skills begins with planning, namely creating a learning design, then organizing, namely determining the learning model and classroom management while students are studying.

To make it easier for teachers to utilize ChatGPT, collaboration is needed with teachers who really understand technology, especially ChatGPT. And no less important is to motivate students to continue learning and not be lulled by the existing conveniences. The last one is the need for supervision of learning by teachers through tests and supervision by school principals so that learning objectives can be achieved.

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