# Transforming Education and Learning through Chat GPT: A Systematic Literature Review

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**Abstract:** Technology is generally interpreted as anything that can provide us with convenience in many ways. Technology also has a huge impact on education and learning. These two things become increasingly inseparable because their roles are interconnected. One of them is by using Chat GPT. The purpose of this research is to explain Transforming Education and Learning through Chat GPT. A review is conducted on the state-of-the-art methods using the preferred reporting items for reviews and meta-analyses. We must know and practice changes in education and learning patterns at all levels of education by describing the characteristics of learning that are currently needed. by using GPT Chat digital technology which has benefits and reasons for using this technology, such as using GPT chat in the transformation of education and learning. GPT chat has many benefits in education and learning but GPT chat is only a tool and the results depend on the data available during training and the model's understanding of the question and context. Although Chat GPT has its benefits, be wise in using the information provided and don't hesitate to verify important information from trusted sources. GPT chat is important because it provides benefits in various fields, such as customer service, education, research, product development, language skills development, and advancing human-machine interface technology

**Keywords:** Chat GPT; Education; Learning

## Introduction

In the era of globalization, technology is developing rapidly, and the delivery of information will take place quickly. The influence of globalization has positive and negative impacts on a country. The impact that we can feel is that humans use technology to exchange information, science, and technology (Seo et al., 2021). The impact that is felt is the emergence of the digital divide or the difference between those who are able and those who are not able to access Information and Communication Technology. ICT advances have a significant influence on various aspects of life. Education is an inseparable part of the process of developing science and technology as a process of human maturation (Dlouhá & Pospíšilová, 2018).

On the other hand, education requires developing the quality of human resources, because this is one of the factors in improving the quality of the current education system in the industrial era 4.0. Education has an important role because without education the process of transforming modern knowledge is difficult to realize (Serdyukov, 2017). Therefore, educational development should occur in line with changes in the culture of life (Zhang, 2019). Learning developments that are still manual must be continuously improved in education for the benefit of the future. Digitalization will be able to develop the potential of students so that they can face and solve life problems faced in the future (Darling-Hammond et al., 2020). So Educ is expected to be able to prepare students to be able to face advances in the economic, political, social, scientific, and technological

fields as well as other fields in the industrial era 4.0 and in the future.

Most learning and learning patterns developed in institutions educational institutions still relatively rely on textbooks, student worksheets, and unstructured lectures or discussions, while learning activities are impressive come, sit, listen, note, and memorize (Sari & Yudha, 2022). This condition is made worse by the readiness of students to take part in teaching and learning activities with very limited experience and knowledge (prior knowledge). What is even more worrying is that it is not uncommon for learning orientation and learning only to pursue obtaining a learning NEM certificate in schools, but have not yet developed complete self-competence to prepare the attitudes, abilities, and life skills needed for the future life of students. Therefore, transformation is needed in learning and learning, namely changes in face and character or attitude towards learning and learning patterns as a result of the interaction of learning and learning systems with the demands of change and development of science and technology.

Assisted by digitalization which improves education and learning at all levels of education (Pettersson, 2021). One of them is the transformation of education and learning through GPT chat (Adiguzel et al., 2023). Until now, ChatGPT is still widely discussed because of its beginner-friendly features and extraordinary performance capabilities. The use of AI has been proven effective in various fields, such as health, education, business, and others. AI is a tool to expand human intelligence in processing and understanding large amounts of information as well as sparking discovery ideas. Expanding intelligence can be interpreted as utilizing technological features, namely, high accuracy, automation in operations, easy accessibility, and instant exploration of ideas (Alahi et al., 2023). GPT chat involves answering questions, providing information, performing text-related tasks, providing suggestions, and interacting naturally with users. This model continues to be improved through ongoing training processes and technology development by OpenAI.

For the creation of scientific papers, AI ChatGPT can be used to determine topics. This topic can come from observations of issues that are currently being widely discussed or subjective interest in certain fields. Of course, the existence of AI ChatGPT is a means of exploring ideas that can be accessed easily, this can support the completeness of observation material instantly. The good impact of all of the above creates an interesting learning experience, with the ultimate goal of students experiencing improved results from the learning process that has been carried out so far.

Previous research has examined Shaping the Future of Education: Exploring the Potential and Consequences of AI and ChatGPT in Educational Settings, What if the devil is my guardian angel: ChatGPT as a case study of using chatbots in education.

In this research, we examine the characteristics of educational and learning transformation, the benefits of using GPT Chat, and the reasons why GPT Chat is Important. From previous research, it seems that there has been no systematic literature review that specifically reviews transforming education and learning through Chat GPT. Based on the background explained this research aim is to examine the Transformation of Education and Learning through GPT Chat.

## Method

We conducted this research as a systematic review by following the PRISMA guidelines. The PRISMA guidelines provide several items that need to be considered in preparing a systematic review. In this study, we will mainly focus on several key items: Education, Chat GPT, and Learning. This helps form the basis of our assessment. Initially, we collected the latest studies on transforming education and learning through Chat GPT, based on a few selected keywords. Then, we apply eligibility criteria to the collection. We only selected literature published in 2017 or later to provide an overview of recent trends. In addition, we limit the types of literature, namely only literature in the form of journals and proceedings.

## Result and Discussion

Preferred Reporting Items for Systematic Review (PRISMA) is the preferred reporting technique used in this study. The research was conducted methodically throughout the necessary research stages. The information offered is thorough, and impartial, and attempts to combine pertinent study findings. The steps of a systematic review of the literature involve developing research questions, searching the literature, Complete published in international journals from 2017-2023, indexed in databases, and themed Learning Transformation in the Human and Natural Resources Economics course through the GPT Chat.

Changes in traditional learning and learning patterns towards more patterns up to date describes the characteristics of learning needed now as following: seen from the focus of the curriculum, traditional learning emphasizes content coverage, factual knowledge, and learning skills and isolation, whereas Up-to-date learning emphasizes depth of understanding of content, mastery of concepts and principles, and

development of complex problem solving skills; Judging from the scope and sequence of delivery, traditional learning follows strict curriculum sequence, learning from unit to unit, focusing and focusing as well based on discipline, while cutting-edge learning follows the learner's interests, Units are formed from complex, widespread, and focused problems and issues interdisciplinary; seen from the role, traditional learning places the teacher as a lecturer, leader and expert in learning, meanwhile Up-to-date learning places teachers as providers of various resources learning, as a participant and learning partner; seen from the focus of measurement. Traditional learning emphasizes results, test scores, comparing with others, or the ability to reproduce information, while in learning The latest emphasizes processes and results, real achievements, standard performance and progress over time; seen from learning materials, learning traditionally relies on textbooks, lectures, and presentations, as well as activities and training sheets are developed by teachers, while learning is up to date emphasizes original printed learning sources, interviews, documents, as well data and materials developed by the learner; seen from the use of technology, Traditional learning uses technology as a support, in nature peripheral, run by the teacher as

a presentation tool, while learning the use of technology has become a necessity, an integral part, directed at students, and used to help or strengthen students' presentations learner knowledge, seen from the classroom context, traditional learning assigns students to work alone, encourages competition, and accepts information from the teacher, while advanced learning assigns students to working in groups, there is collaboration with each other, students constructing, contributing, and synthesizing information.
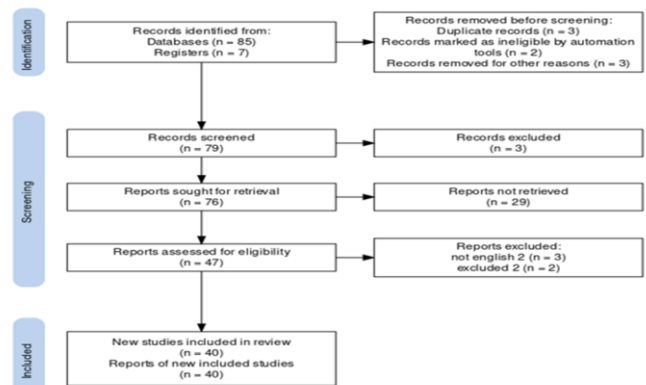


**Figure 1.** PRISMA flow chart

**Table 1.** Changes in Traditional Learning and Learning Patterns Towards More Patterns Up to Date

| Source | Characteristics of learning that are needed today |
| --- | --- |
| (Deslis & Desli, 2023) | Judging from the curriculum focus |
| (Gardner et al., 2021) | Judging from the scope and sequence of delivery |
| (Talug, 2012) | Seen from his role |
| (Schukajlow et al., 2023); (Bowden et al., 2021); (Abuhassna et al., 2020); (Farida & Setiawan, 2022) | Seen from the focus of measurement |
| (Van Seters et al., 2012); (Kintu et al., 2017) | Seen from the learning materials |
| (Onyefulu & Roofe, 2019); (Hendrastomo & Januarti, 2023) | Seen from the use of technology |
| (Seidel et al., 2021); (Haleem et al., 2022) | Seen from the classroom context |
| (Azura et al., 2022); (Marpanaji et al., 2018) | Seen from the role of learning |
| (Hariadi et al., 2021); (Surahman et al., 2023) | Seen from the learning objectives |

Seen from the role of learning, traditional learning treats students in order carrying out teacher's orders, remembering and repeating facts, and accepting and completing report assignments, while up-to-date learning places students can carry out learning activities directed by themselves, reviewing, integrating, and presenting, the learner determines own tasks works work independently for a large amount of time; views from learning objectives, traditional learning has short-

term goals learners know the facts, terms, content and long-term goals they have broad knowledge, andully complete standardized achievement tests learning, while cutting-edge learning has the learner's short-term goals understand and apply complex ideas and processes and long-term goals Long has in-depth knowledge, character, and ski, ll develop self-competence, be independent, and want to learn throughout life.

**Table 2.** Benefits of Using GPT Chat

| Source | Benefits of GPT Chat |
| --- | --- |
| (Javaid et al., 2023); (Mishra & Awasthi, 2023); (Sundar & Liao, 2023) | Communication with Machines |
| (Dwivedi et al., 2023); (Shafeeg et al., 2023) | Task Completion |
| (Haluza & Jungwirth, 2023); (Ivanov & Soliman, 2023); (Kanbach et al., 2023); (Surameery & Shakor, 2023) | Customer Support |
| (Baskara, 2023); (Rahman & Watanobe, 2023); (Tlili et al., 2023); (Paul et al., 2016) | Learning and Experimentation |

Using GPT Chat has several benefits, including Communication with Machines; GPT chat allows you to interact with machines or AI directly using natural language. You can ask questions, ask for advice, or ask for help without needing to follow a custom script or interface. Task Completion; GPT Chat can help you complete tasks or find information quickly. You can ask questions about any topic, ask for clarification, or look for reference materials. It can be a useful tool for studying, doing research, or completing everyday tasks. Customer Support; many companies use Chat GPT as a virtual assistant or intelligent agent to provide customer support. GPT can help answer frequently asked questions, provide instructions or guidance, or refer customers to the right resources. This can reduce response times and improve customer experience. Learning and Experimentation; Using GPT Chat can provide an interactive learning experience. You can ask questions, test hypotheses, or ask for advice on a variety of topics. This can help you expand your knowledge, try new things, or explore ideas freely.

**Table 3.** Why GPT Chat is Important

| Source | Several reasons why GPT Chat is Important |
| --- | --- |
| (Cotton et al., 2023); (Hennig et al., 2023) | Assistance in Education |
| (Sanmarchi et al., 2023); (Vidhya et al., 2023); (Fuchs, 2023) | Research and Exploration Support |
| (Salvagno et al., 2023); (Grassini, 2023) | Product Development and Innovation |
| (Yu, 2023); (Achuthan et al., 2021) | Language Skills Development |
| (Følstad et al., 2021) | The Future of Human and Machine Interaction |

The reason GPT Chat is important is because it has several significant reasons: Assistance in Education; GPT Chat can be used as a learning and educational tool. Students can ask questions to Chat GPT to get explanations, guidance, or reference materials. In this context, Chat GPT helps increase the accessibility and availability of educational information. Research and Exploration Support; GPT Chat can help researchers and experts explore and analyze information. They can ask questions or run certain scenarios to gain deep insight into a particular topic or domain. GPT chat can also help in the research and experimentation process by providing suggestions or new thoughts. Product Development and Innovation; GPT chat can be used as a tool in product development and innovation.

The development team can test and ask questions to Chat GPT to get feedback and creative thinking. This can help in the process of designing, improving, and developing better products. Language Skills Development; Through interaction with Chat GPT, users can improve their language skills. They can practice writing, speaking, or communicating in an effective way. GPT Chat can provide feedback and suggestions to help users improve their language skills. The Future of Human and Machine Interaction; GPT chat is a step forward in the development of human-machine interfaces. With this technology, interaction with machines becomes more natural and intuitive. GPT chat paves the way for the development of more advanced systems, such as smarter and more responsive virtual assistants.

## Conclusion

Transformation of education and learning is an effort to improve the quality and quality of education which must continue to be pursued as a consequence of learning demands that are by developments in science and technology, learning styles, developments in learning and learning, stories, as well as needs and trends that occur in society as part of current developments. The technology currently used is Chat GPT digital technology which has several benefits, and Chat GPT is important because it has several significant reasons.

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**Conflicts of Interest**
The authors declare no conflict of interest.

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