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# Learning Transformation in the Human and Natural Resources Economics course through the GPT Chat: A Review<sup>1</sup>

Paulus L Wairisal<sup>1\*</sup>

<sup>1</sup>Economic Education Study Program, Universitas Pattimura, Ambon, Indonesia<sup>5</sup>

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Corresponding Author:

Paulus L Wairisal<sup>5</sup>

[liberthyw2@gmail.com](mailto:liberthyw2@gmail.com)

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**Abstract:** In the world of education, we are led to carry out learning that is easy to understand and carried out by many developments in the field of technology. Where the purpose of the research is to explain Learning Transformation in the Human and Natural Resources Economics course through the GPT Chat. In the Human and Natural Resources Economics course, the use of GPT Chat can provide convenience for students in carrying out the learning transformation process. A review is conducted on the state-of-the-art methods using the preferred reporting items for reviews and meta-analyses (PRISMA) guidelines. In the world of education, we are led to carry out learning that is easy to understand and carried out by many developments in the field of technology. One of the learning transformations is to use AI as a technology that can help humans achieve greater progress and open up new opportunities for innovation and success in various fields. Especially in human resource and natural resource economics courses, digital-based learning transformation using GPT chat can simplify and access the information needed in the learning process.

**Keywords:** Artificial Intelligence; GPT chat; science learning media

## Introduction

False Artificial Intelligence is an innovation in the field of science. It began to exist with the appearance of modern computers, namely in the 1940s and 1950s. The ability of new electronic machines to store large amounts of information, and process at very high speeds rivals human abilities (Mikalef & Gupta, 2021). Computer science is specifically devoted to the design of intelligent behavior automation in computer intelligence systems (Xu et al., 2021). This system exhibits special characteristics associated with intelligence in behavior that can fully mimic several functions of the human brain, such as understanding language, knowledge, thinking, solving, and problems (Collins et al., 2021). Artificial intelligence programs are simpler to operate, so they help users a lot. Conventional programs are carried out procedurally and rigidly, and the series of solution stages has been precisely defined by the programmer. on the other hand, in artificial intelligence

programs, to get a satisfactory solution, a trial and error approach is used, similar to what is done by humans an innovation from Open AI (Artificial Intelligence) has succeeded in creating a commotion in people around the world, including Indonesia. This innovation is the GPT Chat, which was obtained from the results of a research company in developing artificial intelligence (Taecharungroj, 2023). The function of the GPT Chat itself is to support communication and as a tool for tracing information (Haleem et al., 2022). Another function is to be able to support scientific research in learning.

In the Human and Natural Resources Economics course, the use of GPT Chat can provide convenience for students in carrying out the learning transformation process. One of the topics of the Economics course on human and natural resources is studying natural resources which need to be classified because this classification will make it easier to understand the characteristics of these resources (Schellens &

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Gisladottir, 2018). Furthermore, this classification will make it easier to plan how to use it and how to manage it so that the volume of natural resources does not run out quickly and remains sustainable but provides optimal social benefits. Natural resources can also be defined as resources or factors of production provided by nature and not man-made (Oh & Muneepeerakul, 2019). Natural resources that are always used without renewal, then in the long run these natural resources will become scarce.

Natural resources such as water, air, land, oil, fish, forests, and others are essential resources for human survival. The loss or reduced availability of these resources will have a very big impact on the survival of mankind on this earth (Abbass et al., 2022). Without air and water, for example, humans cannot live. Likewise, other natural resources such as forests, fish, and others are resources that not only meet the needs of human life but also provide a sizeable contribution to the welfare of a nation. Good management of natural resources will improve the welfare of mankind, and vice versa, management of natural resources that are not good will have a negative impact (Shah et al., 2022).

There is a delay in the collection and explanation of knowledge from the literature and access to information, making the manual learning process slow and poorly understood. For this reason, the development of information and communication technology has changed various aspects of life, including aspects of education and human resource development. In the education sector, it is guided to carry out learning that is easily understood and carried out by manual developments in the field of technology. Especially in the human and natural resources economics course, digital-based learning transformation using GPT chat can simplify and access the information needed in the learning process.

In carrying out the transformation of learning, it is felt that educators and recipients of learning benefit from it. Digital-based learning transformation can be carried out to explain and carry out learning in this course, so GPT Chat is needed as a support for communication and as a tool for tracing information (Kooli, 2023). For example, the GPT chat is used to look for references, create script backgrounds, create articles, and make article conclusions. The aim of this study is the Learning Transformation in the Human and Natural Resources Economics course through the GPT Chat.

Complete articles published in international journals from 2017-2023, indexed in databases, and themed Learning Transformation in the Human and

## 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: Artificial Intelligence, science learning media, GPT chat. This helps form the basis of our assessment. Initially, we collected the latest studies on Learning Transformation in the Human and Natural Resources Economics course through the GPT Chat, 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 over the course of 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,

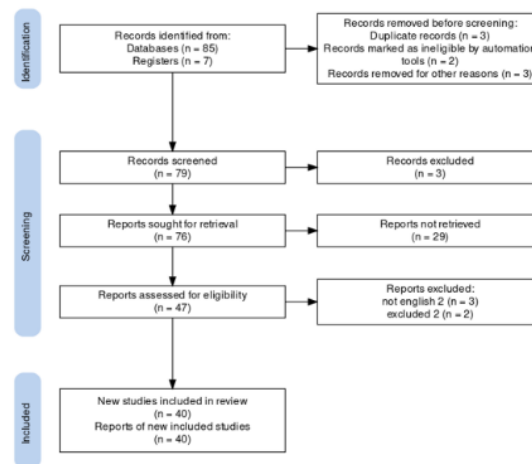


Figure 1. PRISMA Flow Chart

Natural Resources Economics course through the GPT Chat.

**Table 1. Artificial Intelligence**

Source	Main Scope in Artificial Intelligence
(Partridge, 1987); (Sarker, 2022)	Expert System
(Mah et al., 2022); (Tyagi & Bhushan, 2023)	Natural Language Processing
(Collins et al., 2021); (G. Harkut & Kasat, 2019)	Speech Recognition
(Kakani et al., 2020)	Computer Vision
(Cioffi et al., 2020); (Mikalef & Gupta, 2021b); (Samala et al., 2022)	Game Playing

Expert System is software that stores the knowledge of an expert thus the computer will have expertise like an expert. Natural Language Processing is expected that in the future humans can communicate with computers using everyday language. Speech Recognition, namely with this technology, it is hoped that humans will be able to talk to computers in the

future. Computer Vision is a technology that is an attempt to recognize images or visual objects on a computer. By using sensors or scanners as senses, the computer can recognize what objects are captured by its senses. Develop various forms of intelligent interactive play. It is assumed that this technology can attract the interest of game fans.

**Table 2. Learning Transformation Technology**

Source	Various Kinds Of Role Of Technology In Transformation Learning
(Hanna, 2018); (Kaputa et al., 2022)	Accessibility
(Wulansari et al., 2023); (Akour & Alenezi, 2022); (Fischer et al., 2023)	Digital-based learning
(Owan et al., 2023); (Mohamad & Mohamad, 2022)	Measurement and assessment
(Flake & Fried, 2020); (Dziuban et al., 2018); (Darling-Hammond et al., 2020)	Adaptive and personalized learning

Various Kinds Of Role Of Technology In Transformation; Learning Accessibility is Technology has changed the way we access information. The Internet provides access to unlimited educational resources, such as e-books, online journals, learning videos, and e-learning platforms. This allows students and teachers to access learning materials from anywhere and at any time, overcoming geographical and time constraints. Digital-based learning: Technology has changed conventional teaching methods. Today, we have digital learning tools such as multimedia presentations, interactive simulations, and learning applications. These technologies make learning more interesting, interactive, and adaptive, facilitating better understanding and active participation of students. Collaboration and communication: Technology has

enabled better collaboration and communication between students, teachers, and educational institutions. Tools such as video conferencing, online learning platforms, and discussion forums allow students and teachers to communicate and work together in a virtual environment.

This facilitates the exchange of ideas, group discussions, and joint projects, enriching the learning experience. Measurement and assessment: Technology has also changed measurement and assessment methods in education. There are various digital tools used to measure students' learning progress, such as online exams, assessment platforms, and data analysis. Adaptive and personalized learning: Technology has opened the door for adaptive and personalized learning.

**Table 3. Human and Natural Resource Economics Courses**

Source	Types of Natural Resources
(Schellens & Gisladdottir, 2018); (Muche et al., 2022); (Baker et al., 2020); (Cook-Patton et al., 2021); (Schuurman et al., 2022); (Mekuria et al., 2021)	Non-Recovered Natural Resources Restored Natural Resources
(Gümplová, 2021); (Brottrager et al., 2023); (Andersen et al., 2018)	Natural Resources that Have Combined Characteristics

Natural resources need to be classified because this classification will make it easier to understand the characteristics of these resources. Furthermore, this classification will make it easier to plan how to use it and how to manage it so that the volume of natural resources does not run out quickly and remains sustainable but provides optimal social benefits. Natural resources can

also be defined as resources or factors of production provided by nature and not man-made. Natural resources that are always used without renewal, then in the long run these natural resources will become scarce. This Non-Renewable Natural Resource has the characteristic that the available physical volume is fixed and cannot be renewed or reprocessed. It takes

thousands of years for this Natural Resource to occur, so it cannot be expected that there will be an additional physical volume within a certain period. Such as metal, petroleum, and rocks.

These recovered or renewable natural resources have the nature of continuing to exist and can be renewed both by nature itself and with human assistance. Included in this type are water resources,

wind, weather, sea waves, sunlight, and the moon. The flow of natural resources of this type is continuous and predictable. Natural Resources that Have Combined Properties are Natural Resources that can still be divided into 2 types, namely; Biological resources and soil resources.

**Table 4.** GPT chat in learning the Economics of Human Resources and Natural Resources.

Source	ChatGPT function for Human and Natural Resources Economics Students
(Dwivedi et al., 2023); (Tili et al., 2023)	Looking for thesis title ideas
(Sallam, 2023); (Burger et al., 2023)	Looking for references
(Nikolic et al., 2023)	Make a thesis abstract
(Seo et al., 2021); (Kılınc, 2023)	Create a script background
(Elkhodr et al., 2023); (Flanagin et al., 2023)	Create articles
(Sanmarchi et al., 2023); (Cotton et al., 2023)	Create an article summary

The main function of ChatGPT is to perform tasks related to natural language. However, the results generated by ChatGPT should not be swallowed raw, but there must be a verification and editing process so that the resulting written work can be maximized.

**Conclusion**

Digital learning transformation has a good impact on the learning process. One of the learning transformations is to use AI as a technology that can help humans achieve greater progress and open up new opportunities for innovation and success in various fields. Even so, it cannot be denied that the educational process is a complex activity and includes various components that support and influence each other. The presence of the software, ChatGPT, has had a significant impact on the dynamics of the world of education. In the Human and Natural Resources Economics course, the use of GPT chat functions for various purposes in the learning process. Like looking for references, articles, and other information.

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**Author Contributions**

Conceptualization; methodology; validation; formal analysis; investigation; resources; data curation: writing—original draft preparation; writing—review and editing.: visualization; supervision; project administration; funding acquisition: Paulus L Wairisal.

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**Conflicts of Interest**

The authors declare no conflict of interest.

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