



# Utilizing Artificial Intelligence in the Indonesian Education System

Budi Santosa

## Artificial Intelligence (AI)

1. Artificial Intelligence (AI) technology is a type of technology that attempts to imitate.
2. The human ability being imitated is the ability to reason.



# Introduction

1. Education in Indonesia has undergone significant changes, including the application of AI.
2. AI, relatively new but its potential is very large in increasing the efficiency and effectiveness.



# Distribution of Covid cases in Indonesia in 2020



In 2020, the use of digital learning media began to increase massively during the Covid-19 pandemic.



Learning at school, which was originally an offline process, has been shifted to online learning.

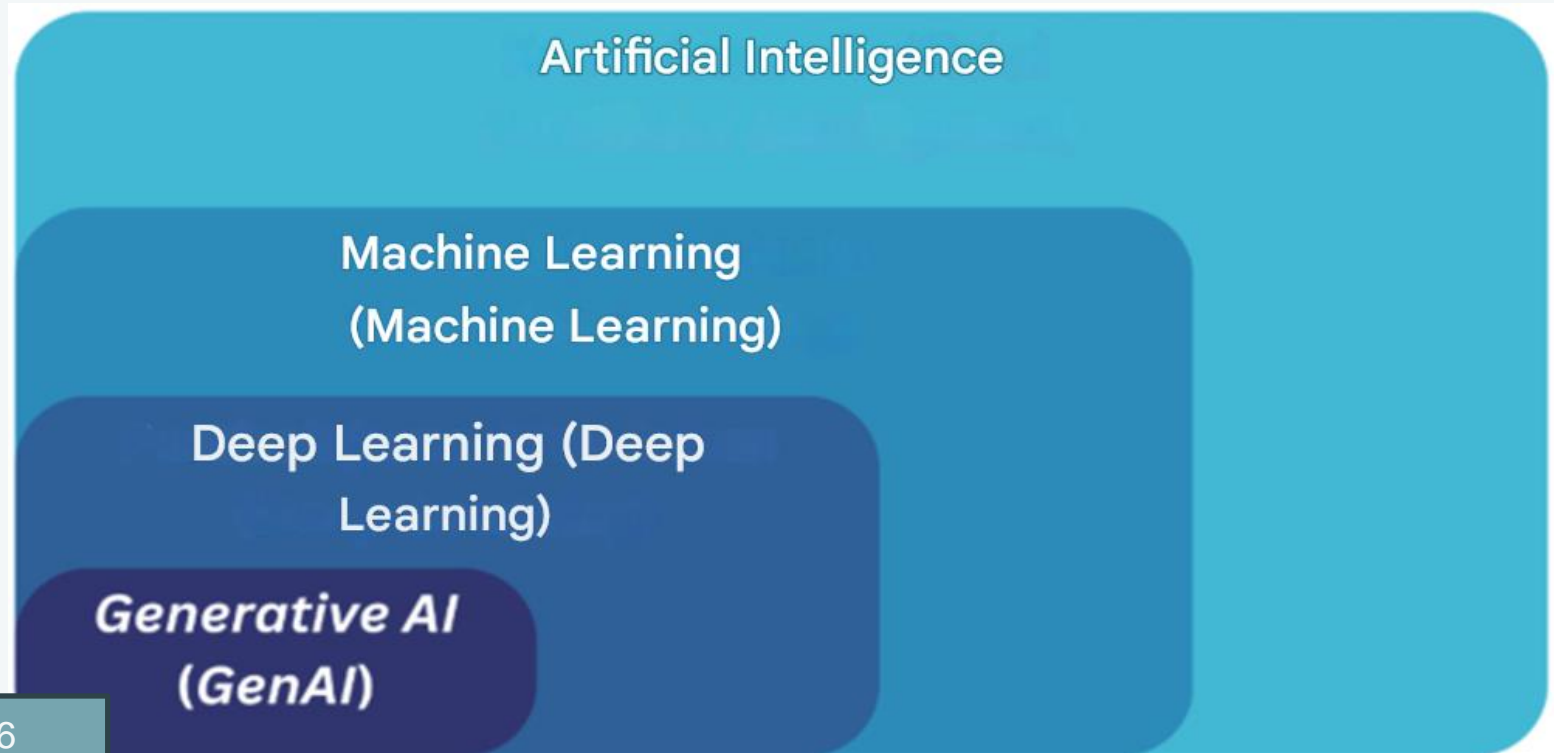


The interest of Artificial Intelligence (AI) learning media users to grow rapidly.

Example:

The use of AI in English translation applications, recommendation systems on video streaming platforms, game applications, online shopping systems, weather forecasts, and even in medical science there is AI to diagnose diseases patients suffer. At school the AI used by teachers to complete tasks such as creating automatic lesson plans and interactive learning games.

# Artificial Intelligence Technology





# Generative Artificial Intelligence Technology (GenAI)

Generative Artificial Intelligence (GenAI) technology is growing rapidly and bringing major disruption to the world of higher education. GenAI's ability to produce creative content such as text, images, sound and video has great potential to increase learning efficiency and open up opportunities for innovation in the implementation of learning.

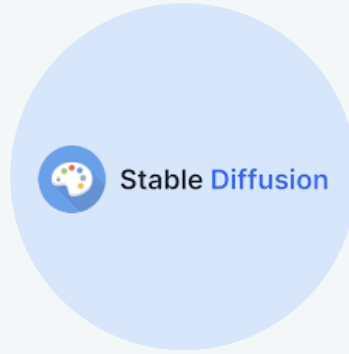


# Examples



## Text

This text data can be a summary, translation, new article and so on.



## Image

The stable diffusion may produce images e.g. sketch or cartoon models and very realistic.



## Video

Invideo can be used to create educational videos that explain learning materials. One example of this type is Invideo [<http://invideo.io>].



# Example



## Voice

GenAI will produce sound, for example a Text To Speech system, or produce music based on specifications in prompting, an example of GenAI is [tts.prosa.ai](https://tts.prosa.ai).

## A combination of different types of output or multimedia

Some GenAIs can combine multiple outputs into one multimedia output, such as a presentation with audio and video, or produce a short film. An example of this type is MindJourney.



# Benefits of Using AI in Learning



Personalization of  
education



Improving access to  
education



Developing adaptive  
assessment



Increasing student  
engagement



Enhance collaboration



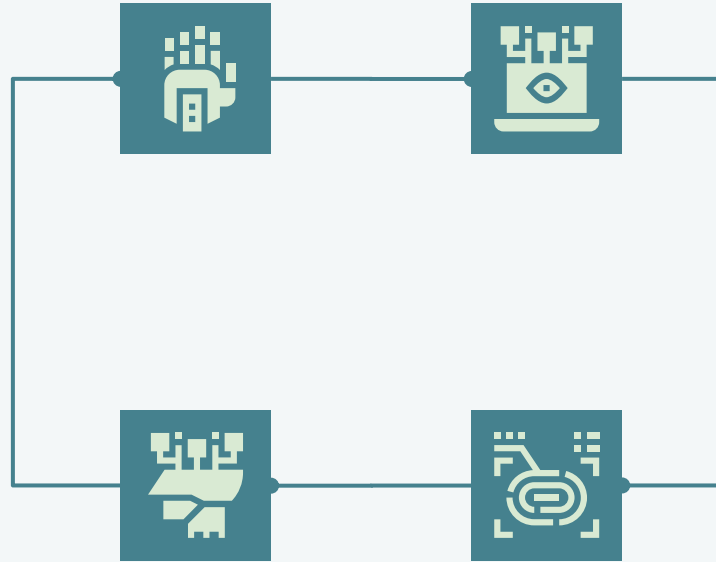
Assisting lecturers in  
carrying out their  
duties

# Benefits of AI Literacy in Education

<u>Critical Thinking Ability</u>	GenAI can help students analyze and visualize complex scientific data, helping to find patterns, trends and anomalies that are useful for developing their critical thinking skills.
<u>Career Preparation</u>	AI literacy is increasingly important and relevant not only for students who will enter the workforce, but also for lecturers and education staff in higher education.
<u>Writing Skill improvement</u>	GenAI can improve students' writing skills through the variety of answers it generates. While there is a risk of technological dependency, students can use it to improve their writing and communication skills. GenAI is a useful tool in starting research on a topic. Prompt-engineering skills support the process.
<u>Language Learning tools</u>	It is undeniable that one of the advantages of AI today is its ability to translate and transcribe conversations into various languages with increasingly better quality.
<u>Innovative learning strategy</u>	AI-based tools such as Learning Assistant make it easy for students to get personal consultation support according to their respective stages of the learning process. Videos, animations and simulations can be easily created using AI tools, helping lecturers to create more contextual and effective visual learning materials.

# Ethics of using GenAI for learning

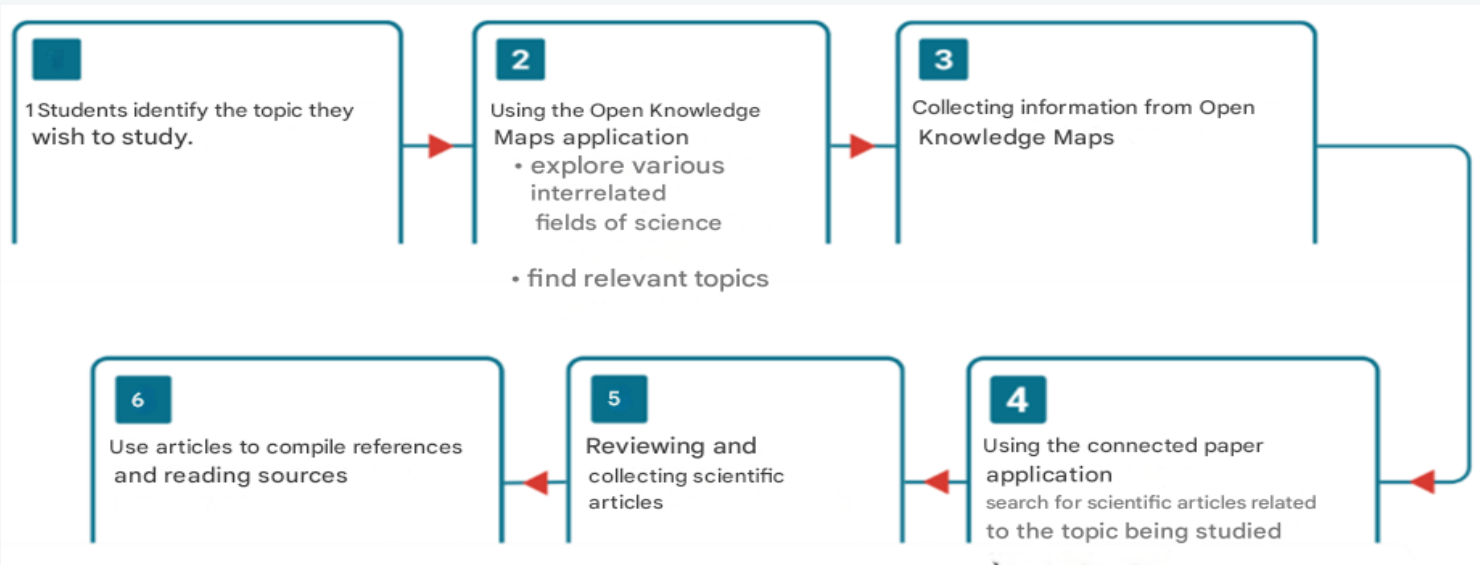
1. Academic Integrity.
2. Aware of Data Security and Protection.
3. Equality and accountability to address potential gaps.



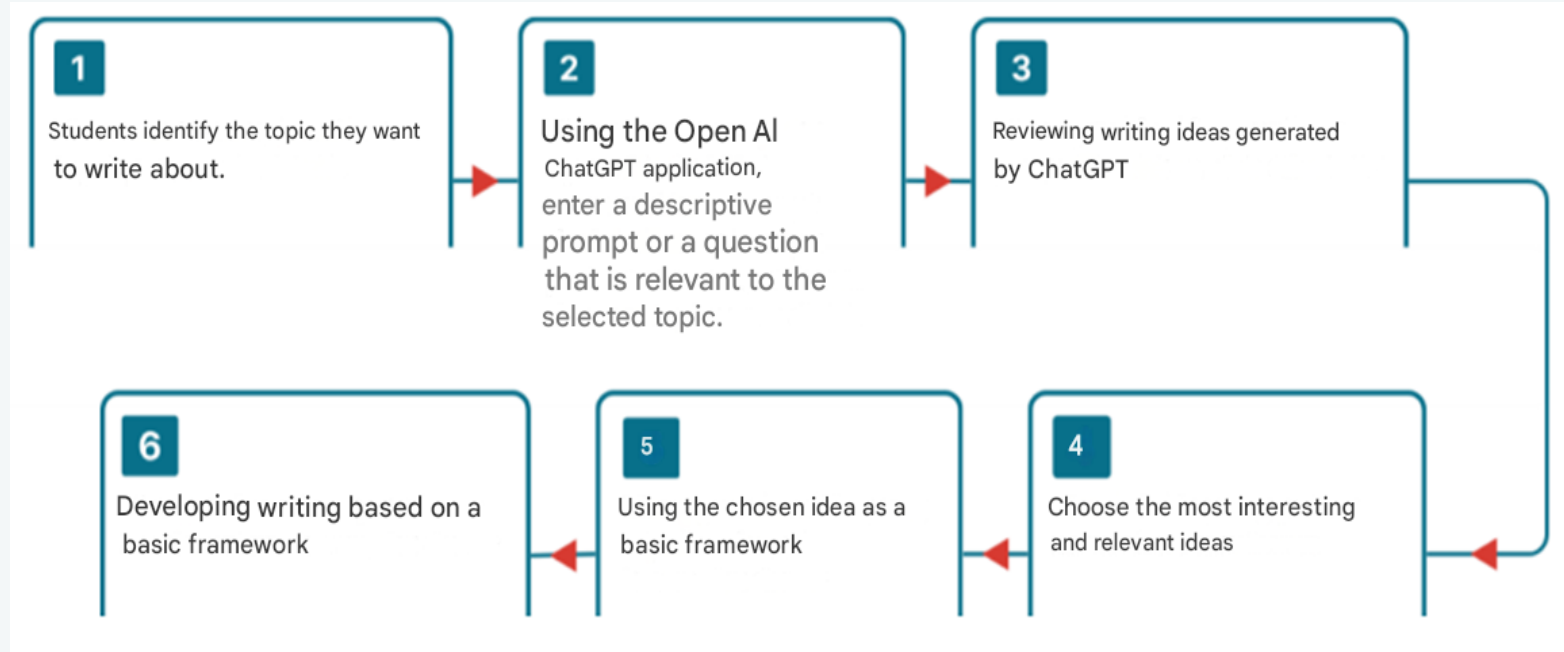
# Utilization of AI by Students



# 1. Helps find references and reading sources

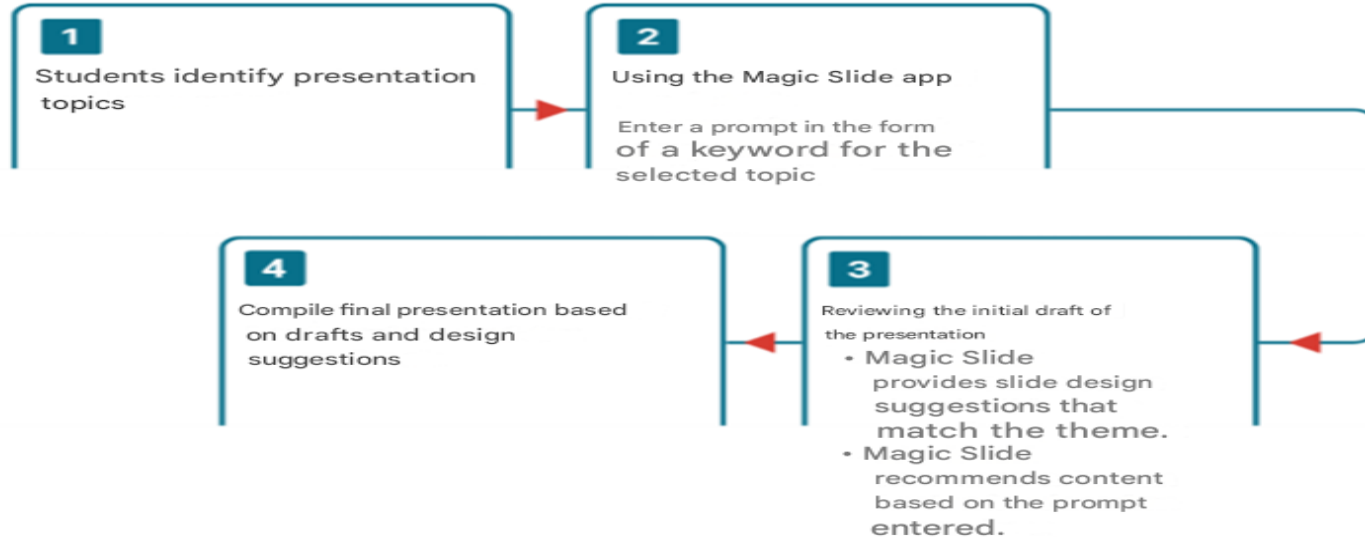


## 2. Provides assistance in writing ideas

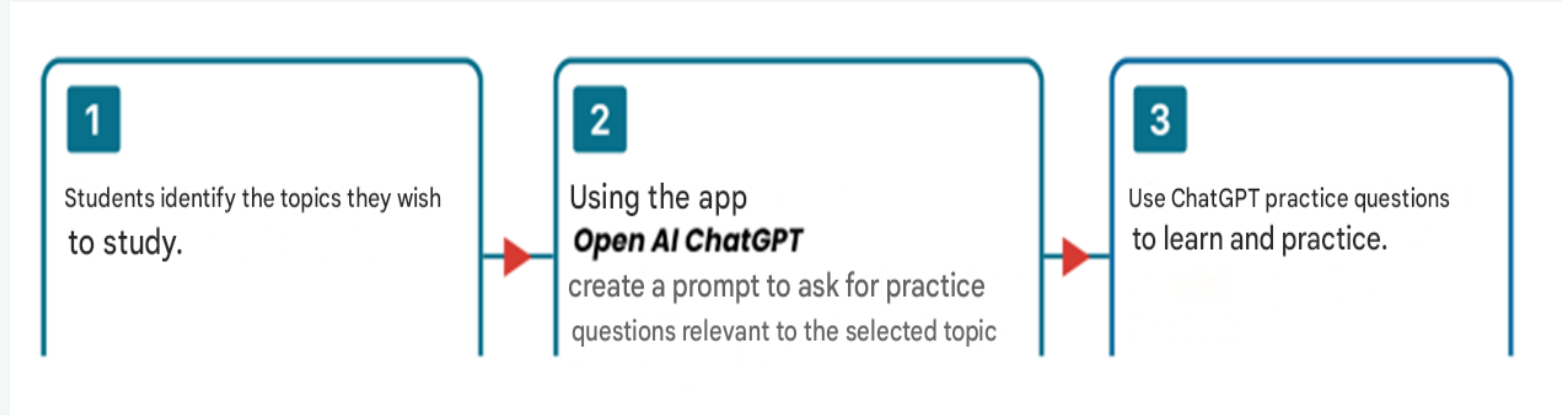




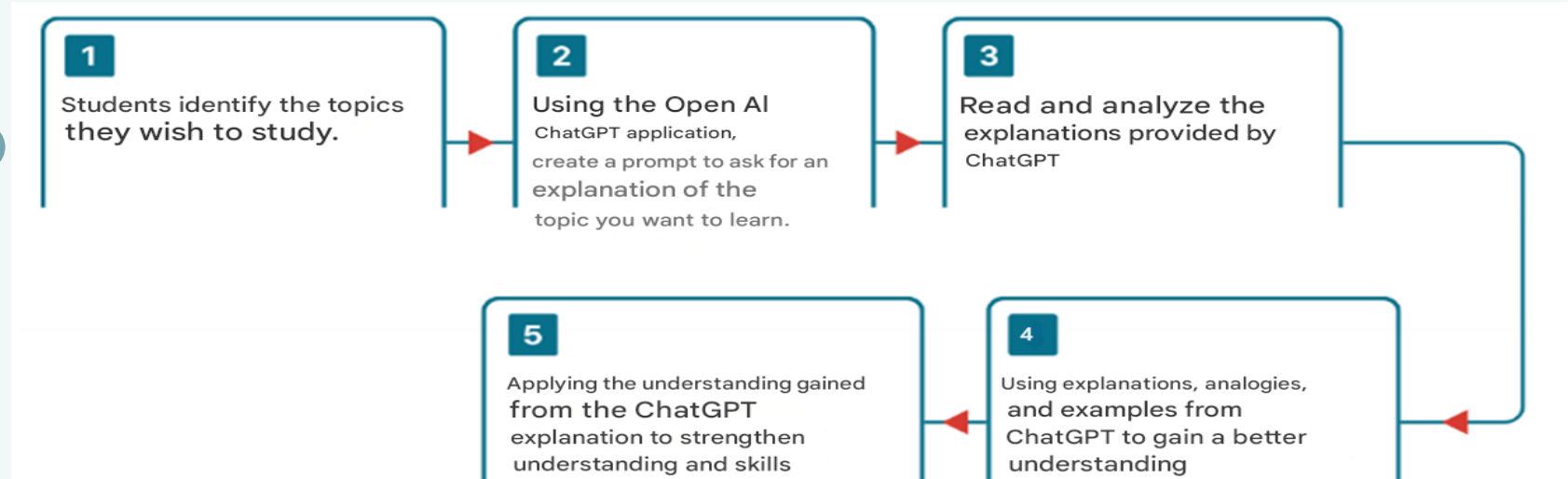
### 3. Assists in writing and compiling presentations and multimedia



## 4. Produces learning practice materials



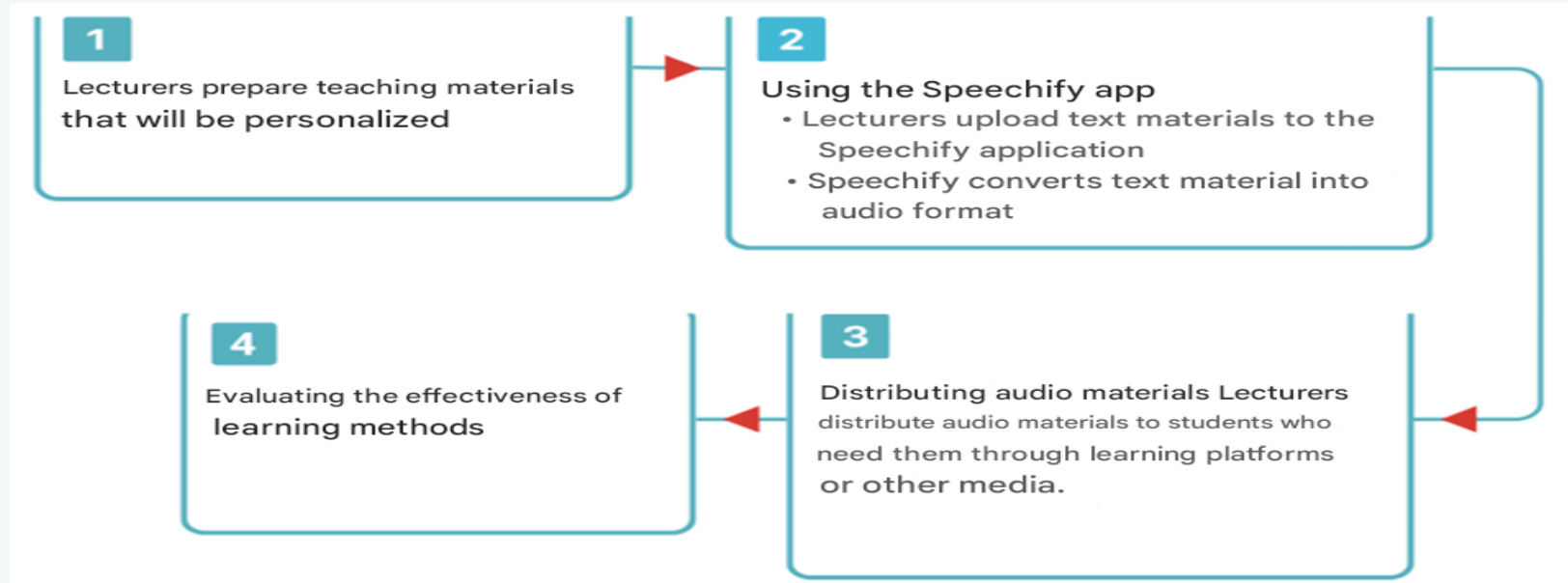
## 5. Facilitates comprehension of challenging learning materials



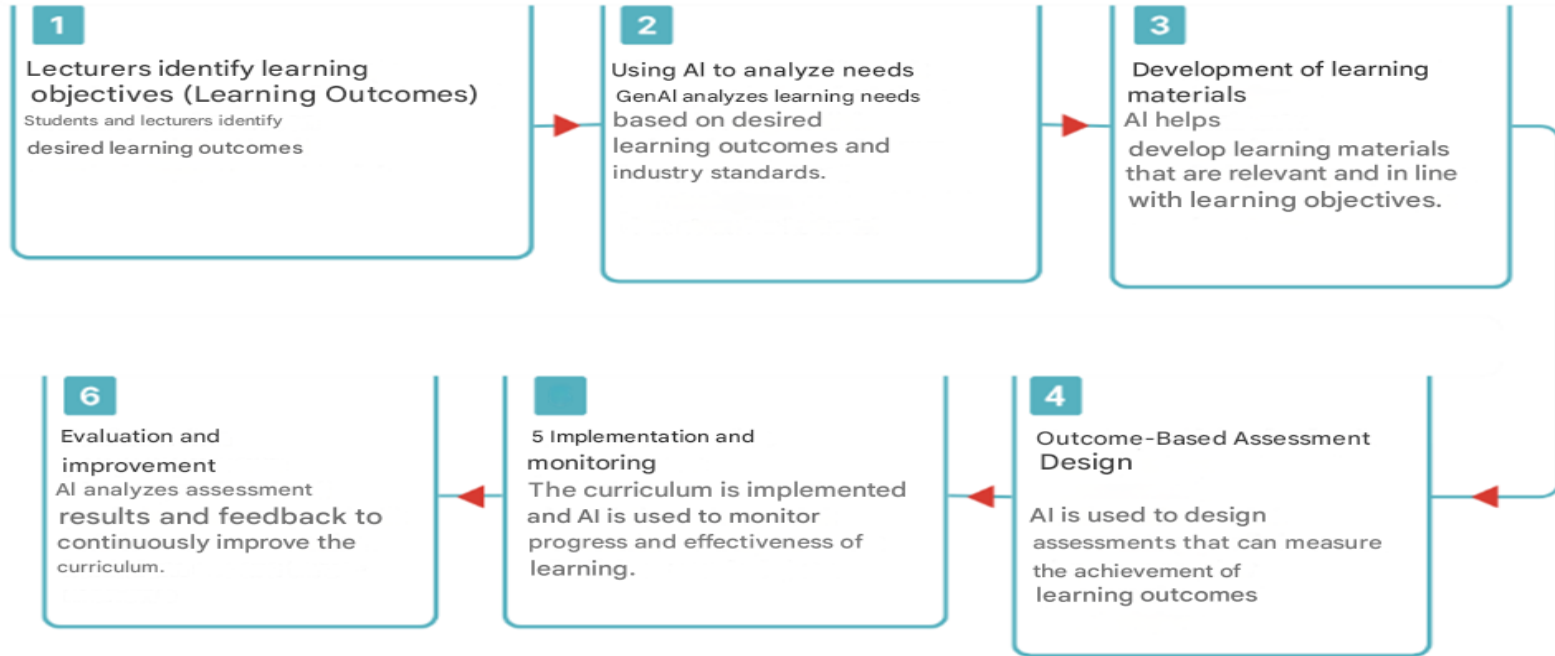
# Utilization of AI by Lecturers



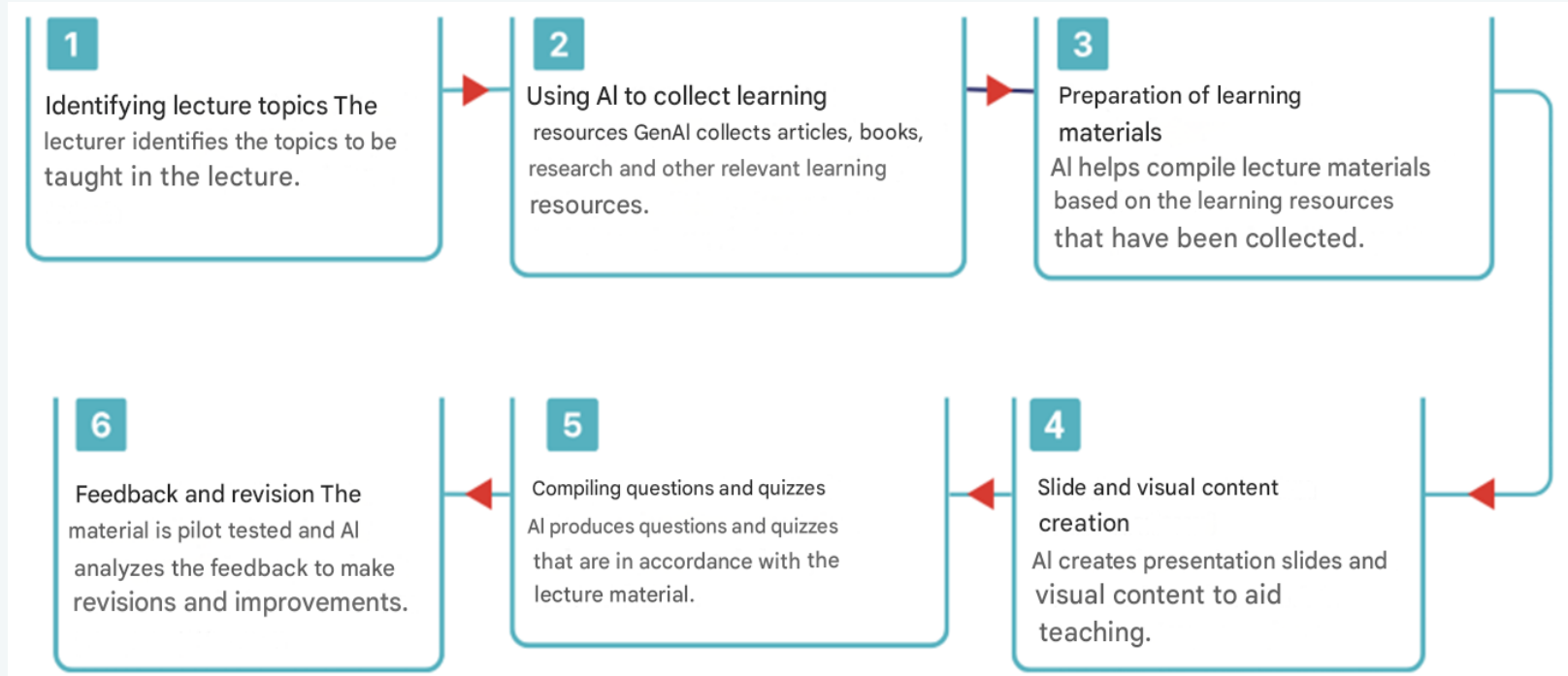
# 1. Personalization of teaching materials



## 2. OBE-based Curriculum Design.

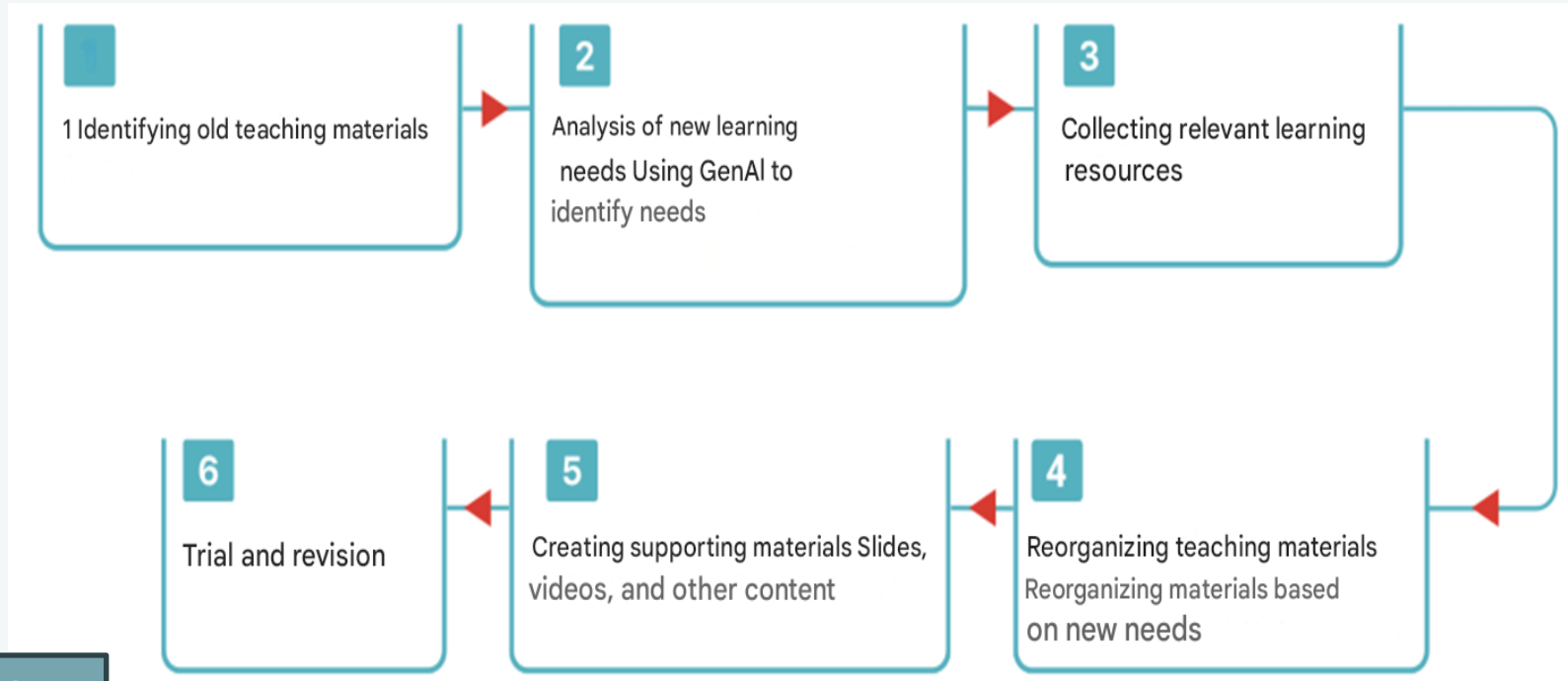


# 3. Preparation of lecture materials

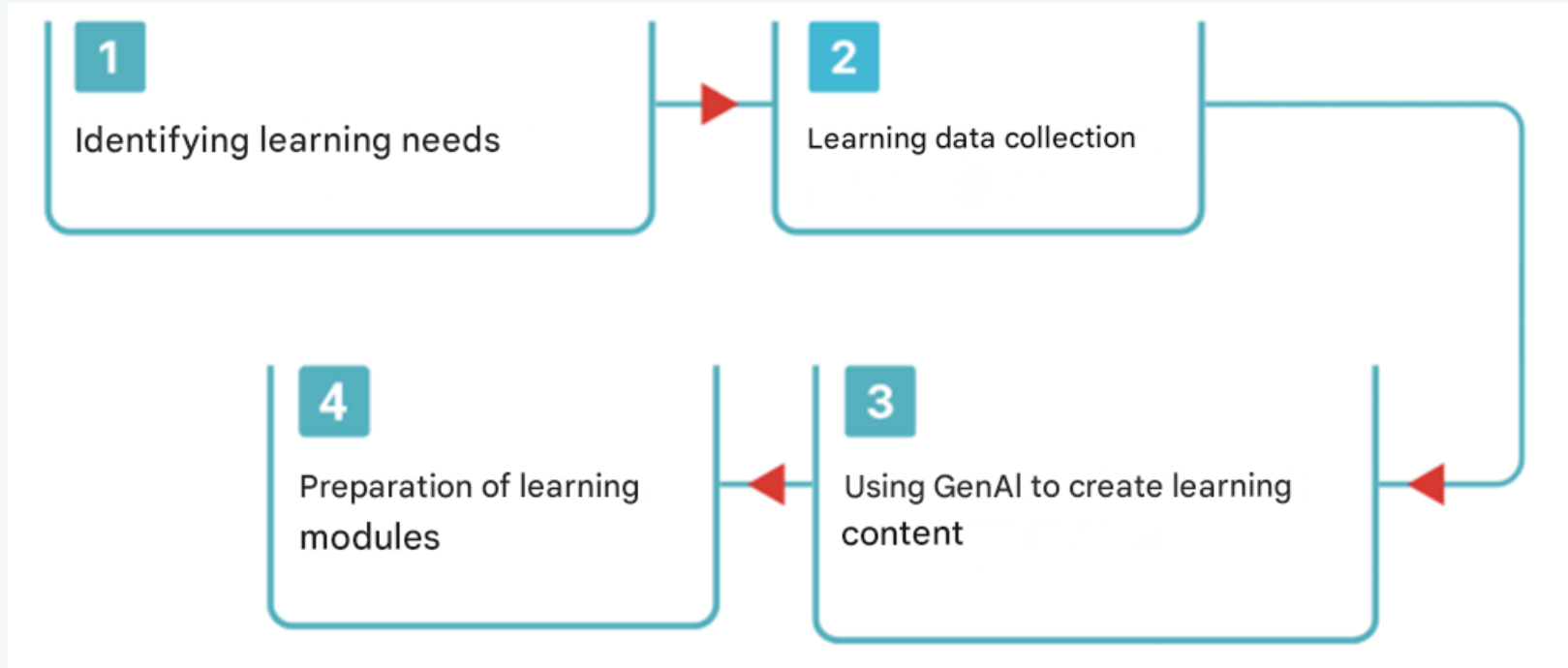




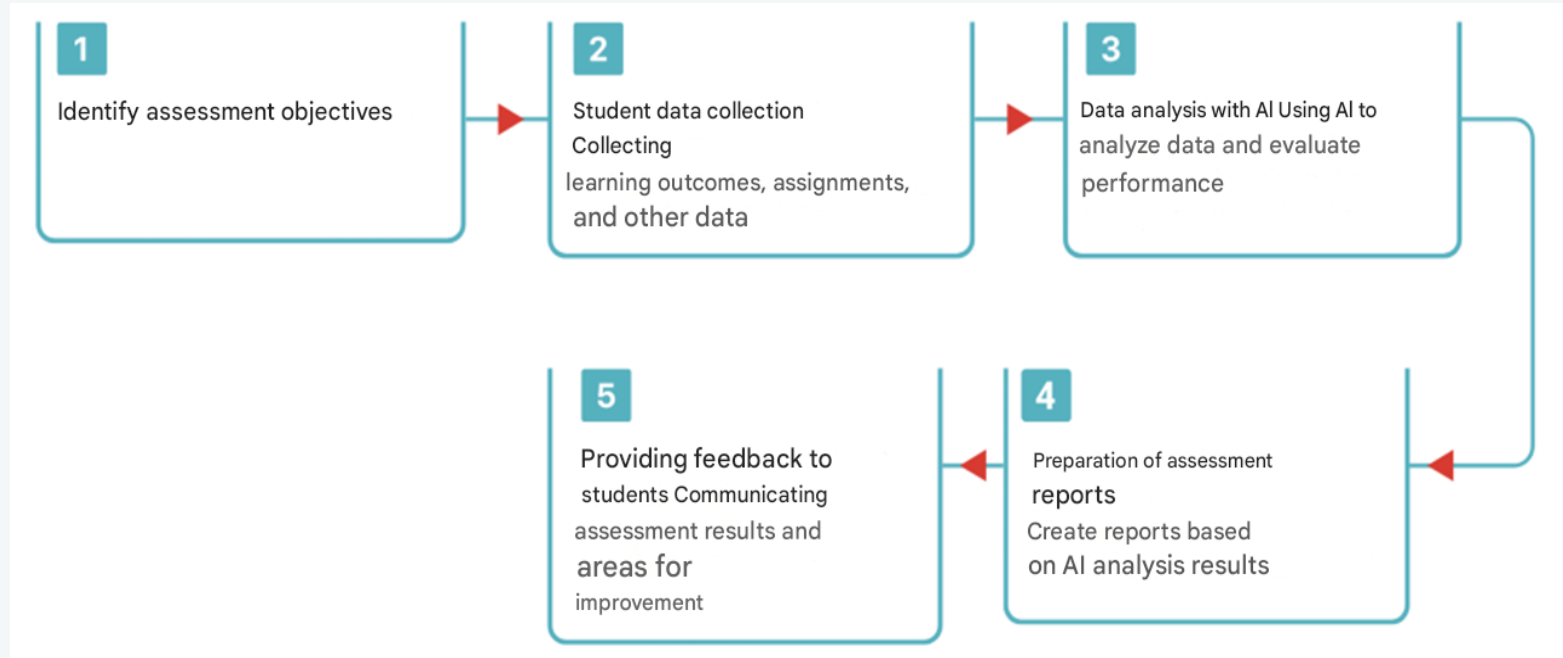
## 4. Restructuring old teaching materials.



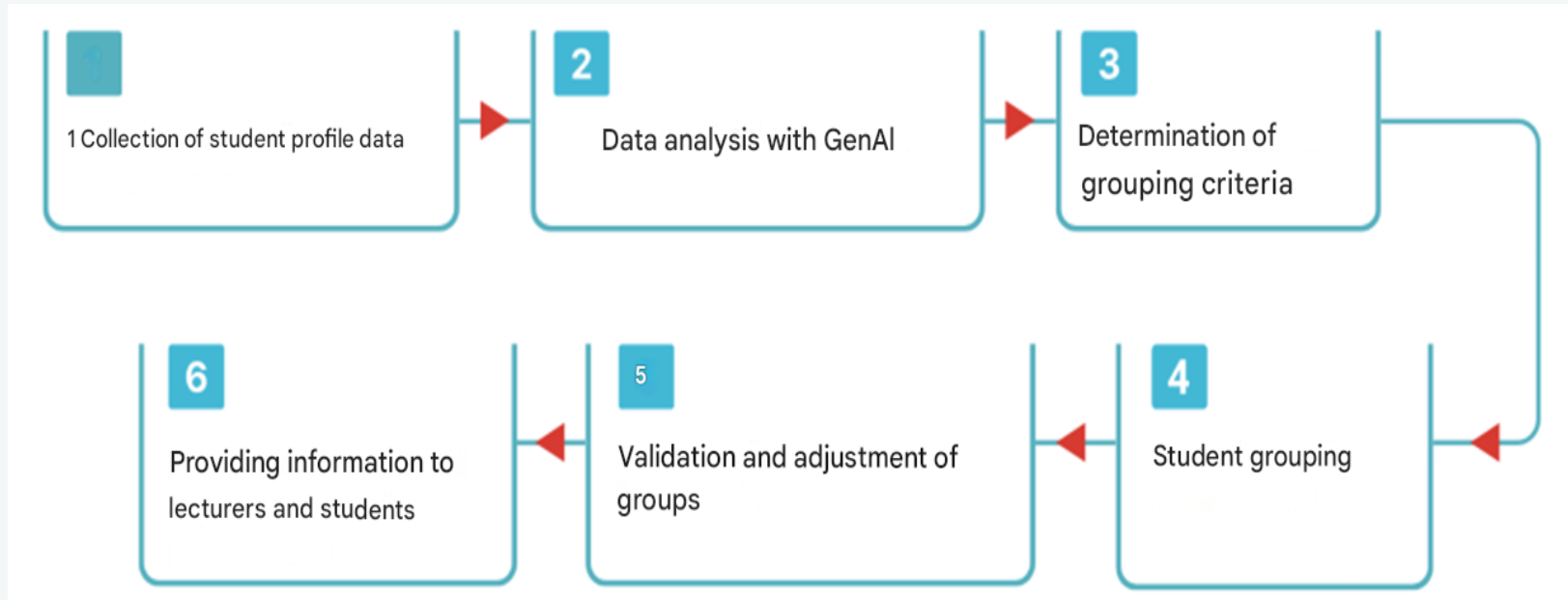
# 5. Creating a tutor-based system



# 6. Conducting student assessments



# 7. Organizing students into study groups based on their profiles



# THANK YOU

