

ARTIFICIAL INTELLIGENCE TOOLS USED IN EDUCATION AND APPLICATION AREAS

Celalettin ÇELEBİ

Necmettin Erbakan University
E-mail: celalcelebi75@gmail.com
ORCID: 0000-0002-2189-6403

Ferhat KARAKUŞ

Ministry of National Education
E-mail: og.karakus1@gmail.com
ORCID: 0000-0001-5327-8346

Introduction

Artificial intelligence today exists in almost all areas of life as systems that can perform tasks that would be difficult for humans to do in a short time in just a few seconds, with various approaches such as decision-making, learning, predicting, making suggestions, and producing new results from existing data (Fullan, Azorín, Harris, & Jones, 2024). Although the history of artificial intelligence, which has become increasingly widespread in recent years with the development of technology and has attracted the attention of many governments, institutions, companies, societies, and individuals, actually dates back a century. In recent years, the development of artificial intelligence has continued with increasing momentum to the present day. From the emergence of the internet and the intelligent agents paradigm in 1994 to the present day, artificial intelligence has become more integrated into our daily lives during this period, which is referred to as the "Third Golden Age of Artificial Intelligence" (Çelebi, Demir, & Karakuş, 2023). Artificial intelligence technologies have permeated almost every area of our daily lives, including education, health, economy, government, transportation, communication, and many other sectors (Hocaoğlu, 2025).

Artificial intelligence (AI) in education refers to the application of AI technologies to improve students' learning processes, increase teachers' productivity, and optimize overall education systems. AI in education encompasses a wide range of applications, such as personalizing learning processes, monitoring student performance with data analytics, automating teaching materials, and making education more accessible (Holmes, Bialik, & Fadel, 2019). Artificial intelligence is not only used to support learning but is also effectively utilized in a wide range of areas such as teaching, assessment, classroom management, administrative tasks, teacher duties, and school management (Arslan, 2020).

On the other hand, AI-powered tools help students overcome the difficulties they encounter while doing their homework and coursework. The visual upload feature enables students to quickly convey complex problems and find solutions. Being accessible from phones and computers allows students to use them anytime and anywhere (Seven & Erümit, 2025). It can be said that AI tools have significant potential to improve the quality of education when used correctly, effectively, and efficiently. Today, thanks to AI-supported systems, teachers can prepare more efficient lesson plans, while students gain a more personalized learning experience. This transformation reinforces the effects of digitalization in education, lightening teachers' workloads while accelerating students' learning processes (Boztepe, 2025). It is important to use and encourage the use of artificial intelligence applications in education because they enrich learning environments and reflect the positive outcomes of student-teacher interaction into the educational process (Çiftçi, Çiftçi, Akca, & Kaçmaz, 2024). The rapid and intensive development of artificial intelligence has led to a rapid increase in the use of artificial intelligence applications in education. Every day, new AI applications are being made available to education stakeholders. Therefore, enabling school administrators, teachers, students, and other education stakeholders to more easily access, compare, and correctly and effectively use the AI tools they need will save time and contribute to increased work efficiency. Therefore, this study includes AI tools that have been used in educational environments, are considered useful, and can be utilized at every level of education. Links to the tools have been added to their names.

Artificial Intelligence Tools

ChatGPT: This is the basic tool used in the lesson plan preparation process. The application is asked to create a lesson plan by entering variables such as learning outcomes, subject, lesson time, relevant sections in the textbook, and number of students. Changes can be made to the basic lesson plan created by the application in line with the desired objectives. Care should be taken to describe the desired situation specifically to the application. In addition to creating a lesson plan draft, ChatGPT can be asked to generate numerous sample materials for the lesson. Based on the provided information, create a lesson plan, provide examples for dictation exercises, explain addition by proving it at an elementary school level, review student assignments according to grammar rules, explain the concept of patience to a seven-year-old child, suggest three educational games for physical education, compose a song for our class, prepare multiplication table flashcards, and engage in a debate with a student by defending one side. In artificial intelligence studies, "prompt" and "command" are very important. For example, we can revise the lesson plan with commands such as "make the questions in the evaluation section multiple choice" or "add an attention-grabbing activity to the introduction section." Copilot: It is a chatbot similar to ChatGPT. Unlike ChatGPT, it conducts research based on a current database. It can answer our questions by referring to websites, articles, and teaching programs. Copilot can also be used as a primary resource in the lesson plan preparation process. With the application, you can create desired images and design visuals. It also allows

for graphic and table design. All operations performed with ChatGPT can be done with Copilot using up-to-date data. ChatGPT and Copilot can be used as basic AI tools when creating Lesson 9 plans. We can choose whichever tool provides us with the most efficient results.

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Animated Drawings: This tool is designed to convert children's drawings into animations. Users can upload drawings and choose from different animation styles. In art class, we can animate the pictures drawn by students and turn them into animations. This way, students may become more eager and motivated to draw. How can we use it? By combining the animations prepared in the application, we can create a short cartoon related to a life skills lesson.

Ideogram and Leonardo: Ideogram and Leonardo is an AI image creation tool. By entering detailed commands for the desired image into the application, it generates various images. Since the application is designed in English, commands entered in English produce more effective results. How can we use it? Images to be used in the prepared lesson plan can be created with a few commands. The images generated are original images not found on Google or other databases.

Eduaide and Magic School: With these tools, we can prepare daily plans, create assessment questions, design activity experiments, prepare educational models and materials according to 5E-Gagne, and enrich our lessons according to globally accepted education and activity methods. A key feature of these tools is that they have specially prepared sections for each topic, and these sections are managed by pre-trained artificial intelligence. For example, when creating questions with ChatGPT, we need to enter and edit a series of commands. This is not necessary with trained artificial intelligence in these applications because the tools have been trained with various commands beforehand. Each educational tool within the applications has a unique feature that distinguishes it from the others.

Gamma AI and Tome AI: Tome and Gamma are two AI presentation tools that help you create presentations quickly. If you don't have enough experience and time for design and slide editing, these AI tools can help you with this. Both applications can create the slides you want in minutes. How can we use them? We take the relevant sections from the textbook and turn them into fun slides. This way, we don't stray from the context of the textbook. We can also convert examples we will give to students or explanations outside of class into slides by entering a few commands. For example, by entering a command such as

"create a fun slide about the capitals of the world's countries," we can create a slide on this topic, or we can create a slide by simply copying and pasting sections from the textbook.

Suno and Udio: Suno and Udio are AI-based tools used to create music. The lyrics of the desired song are entered, and the desired song genre is selected. Then, within a few minutes, the application creates the desired song with a suitable melody at . How can we use it? By preparing songs about concepts that need to be memorized, students can easily learn those concepts. Poems or texts prepared by students can be turned into songs. We can start the day by creating a class song that includes the students' names and use it actively in music class.

Fliki: Only the desired text and topic are taught to the application, and the application creates a written, narrated, and visual video according to the selected duration. We can instantly create videos on any topic we want. It is up to us to ensure that only the desired parts are included in the video. How can we use it? Abstract concepts that are difficult to understand can be entered as commands and turned into videos with audio explanations. Lesson review videos can be created by entering the titles of topics that students do not understand, making it easier to convey situations that are difficult to illustrate with examples. For example, it is possible to achieve the desired output by giving commands such as turning our responsibilities towards animals into a video, converting the rotational movements of the Earth and the Sun into a video with entertaining dialogues, or creating entertaining videos about the capitals of countries.

Canva: Canva is an AI-powered application that allows users to design online. With the AI features found under the magic tabs in Canva, users can create professional designs. They can search for content suggestions with various images, create educational materials quickly and easily, and perform many other features quickly and practically.

MathGPT: MathGPT is an AI-based math problem-solving application. With this platform, you can upload screenshots or type questions directly into the application to solve math problems instantly. MathGPT can solve questions instantly or reach the answer by explaining step by step. How can we use it? It can be used under parental supervision to provide students with detailed feedback on their math homework. It can help students find answers more quickly to math questions they are struggling with or cannot solve.

Yippty: It is only a multiple-choice question creation site. Unlike other platforms, it works only for this purpose. The most important feature that distinguishes it from other question preparation tools is that we can paste up to ten thousand words into the application. Because the more text we enter, the higher the validity of our test will be in that direction. How can we use it? The relevant sections of the textbook can be copied and a test can be created. Tests can be created from reading books or the reading texts in Turkish textbooks.

Call Annie: This is an AI assistant based on ChatGPT. It offers real-time conversation with virtual people through its video chat feature. The chat language is English. How can we use it? Students can practice speaking English by having daily English conversations in class using a smart board or at home using their phones. This way, students can improve their English language skills and gain confidence in speaking.

Heygen ve Rask: These AI tools can translate a previously recorded Turkish video into any other language. The video is translated into a different language without distorting the mouth movements and recorded sound. How can we use it? Each student explains a different topic and records a video. Each recorded video is translated into a different language, and a library is created. These videos promote foreign language development, create content for the channel, and can be used in Erasmus and e-twinning projects.

Elevenlabs: With this AI tool, you can narrate your Turkish text with various voices (ten different human voices). We can also record our own voice and translate it into other languages, including Turkish, using the various voices available in the application. How can we use it? Texts and stories written by students can be narrated with this application, resulting in audio materials. Students are motivated to write and improve their writing skills. When the written stories or texts are played aloud in class, it contributes to attention, listening, and comprehension skills. The texts written by students can be converted to audio, uploaded to YouTube, and a class story channel can be created.

Speecheater: A fast, practical, and lag-free AI tool that instantly converts your speech into text. Students can use the application while writing daily. They can access a written transcript by recounting what they remember for the purpose of reviewing a lesson or topic, thereby reviewing the lesson. We can ask them to send the written transcript of the topic they recounted to the teacher. Additionally, one-on-one meetings with students can be recorded and transcribed using the app. ChatGPT can summarize the transcribed meeting and identify key points.

Adobe Express: We can record our voice and have a conversation with an avatar of our choice within the application. With Elevenlabs, another AI tool, we can convert our own voice into an animated voice and add it to this video. How can we use it? We can create short informational videos and attract students' attention by sending these assignments to the WhatsApp group.

Toonart: This is an AI-powered avatar creation tool. After uploading our own photo to the app, we can choose from various avatar designs available in the app. How can we use it? Students' avatars can be created and posted on the classroom wall for various purposes, such as an assignment checklist or a behavior chart. You can also use avatars in activities where you don't want to use students' original photos. To recognize children who are reviewing the lesson taught at school or reading a book, images can be turned into avatars and made to speak by adding voiceovers.

AutoDraw: is an AI-powered drawing tool developed by Google. It analyzes simple doodles made by the user (such as stick figures, houses, trees) and uses artificial intelligence to offer similar professional drawing suggestions. This allows users to create clean and understandable visuals in a short time, even if they lack drawing skills. Teachers can capture students' attention by quickly adding drawings to the board or presentation using AutoDraw while explaining a topic. (For example: Quickly creating solid–liquid–gas visuals while teaching the “states of matter” topic in science class.)

Consensus AI: An AI-powered research tool that aims to provide accurate and reliable information based on scientific research. When a user asks a question, Consensus AI scans academic articles and generates evidence-based answers summarized from scientific sources. This allows users to access results based directly on scientific studies rather than the confusing information found online. In education, teachers and students can use Consensus AI to find scientifically based data for homework, projects, or research topics, read article summaries, and cite sources. This helps develop research skills and fosters the habit of accessing reliable information.

Colossyan: It is a platform that quickly converts text, presentations, or documents into videos with artificial intelligence support. Users can convert their written texts into videos with the voiceovers of their chosen avatars and create narrations in different languages. In education, teachers can upload lesson content or topic summaries to the application and turn them into engaging video lessons for students.

Diffit AI: An artificial intelligence tool that enables teachers to quickly adapt lesson content to students' levels. When any text, topic, or web link is entered, the tool automatically generates summaries, word lists, questions, and activities. This allows teachers to transform the same topic into materials of appropriate difficulty for students of different levels. It greatly facilitates personalized teaching and differentiated learning processes in education. It creates worksheets in the style of the Singapore mathematics education model.

Table 1. *Categorization of Artificial Intelligence Tools*

Category	AI Tools
Lesson Planning and Content Development	ChatGPT, Copilot, Eduaide, Magic School, Diffit AI, Consensus AI
Numerical Tools	MathGPT, Yippty
Visual Design & Drawing	Ideogram, Leonardo, AutoDraw, Canva
Video & Presentation & Animation	Gamma AI, Tome AI, Animated Drawings, Colossyan, Fliki, Adobe Express, Toonart
Sound & Music Production	Suno, Udio, Elevenlabs
Language Learning & Communication	Call Annie, Heygen, Rask
Writing & Dictation	Speechtexter

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ABOUT THE AUTHORS

Celalettin ÇELEBİ works as a faculty member at Necmettin Erbakan University Ereğli Faculty of Education. Her areas of expertise and study are curriculum development and Primary Education Classroom Teaching.

Ferhat KARAKUŞ works as a classroom teacher at the Ministry of National Education. He completed his master's degree at Necmettin Erbakan University. He has published articles and written theses on artificial intelligence literacy.

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