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TRANSFORMING TRADITIONAL TEACHING METHODS THROUGH ARTIFICIAL INTELLIGENCE TECHNOLOGIES

Melina Neykova, Adelina Ivanova

University of Forestry, Sofia, Bulgaria
E-mails: mneykova@ltu.bg; aivanova@ltu.bg

ABSTRACT

Today's educational institutions are facing constant challenges related to the avalanche of developments in the process of integrating digitalization technologies and forming "smart" e-learning environments, including those based on artificial intelligence (AI). The advent of AI technologies has had a profound impact on educational processes, precipitating a paradigm shift in conventional teaching methodologies. In this context, AI can be regarded as a valuable instrument capable of executing a multitude of operations intrinsic to university activities.

Unfortunately, the dynamism of this process is very high, and the speed at which AI platforms have been generated has been increasing rapidly in recent years, while educational institutions still lack the practices, skills and readiness to operate and implement the various AI tools successfully. In this regard, the presented study provides an overview and comparative analysis of various specialized online AI-platforms that are available online and can be used both by teachers in their professional and pedagogical activities and by students, supporting the process of choosing and integrating AI-based technologies in teaching and educational activities.

Key words: Higher Education, Digital Education, Artificial Intelligence (AI), Information Technologies (IT), Digitalization, Digital Transformation.

INTRODUCTION

The development of digitalisation and the introduction of artificial intelligence (AI) technologies have led to significant changes in society and influenced public policy. The scope of AI is continuously expanding, with the introduction of AI technologies into multiple areas of human activity having a significant impact on the consumer market. Investment in the field of AI is growing rapidly, from existing IT industry giants such as Big Tech, GAMAM, which include Google, Amazon, Apple, Microsoft, Netflix, Nvidia, Adobe, Intel, IBM, and others. In this sense, AI has become a particularly popular topic of discussion that has a profound impact on various spheres of society. The advent of AI technologies is influencing and modifying not only global markets for goods and services, but also approaches to the analysis and research of these markets, and this is confirmed by a number of findings by international authors such as Xu (2019), Shneiderman (2021), Weitekamp *et al.* (2020), Forbes Insights (2020), Schmidt (2020), and others. Although the history of scientific and applied research based on AI has existed for about seven decades, the representatives of this field in scientific knowledge are still busy solving the problem of modeling the processes of human thinking through the use of computer technology (Napalkov&Pragina, 1985; Nilsson, 1969; Nilsson, 1982; Fogel *et al.*, 1969, and others). Thus, modern developments in the performance of computers, coupled with improvements in the development of appropriate algorithms, have today made it possible to apply AI, in part or to an increasing extent, and this process is becoming irreversible to the extent that it is becoming increasingly difficult to find a field of activity in which we do not encounter the application of AI technologies in one way or another.

After the peak of information technology development in educational structures, as a result of the advent of the COVID-19 pandemic, it is now becoming increasingly urgent to consider the integration of AI technologies in higher education and how they may radically change traditional understandings of the conduct of educational activities in the near future. The need to analyse the trend in the diffusion of AI technologies is becoming key and coming to the fore in many higher education research studies (Chu, H.-Ch. *et al.*, 2022; Solovov & Menshikova, 2021; Jamal, A., 2023; Deng, H., 2022; Mhlanga, D., 2023; Qadir, J., 2022; Salas-Pilco, S. Z., 2022; Renz A. *et al.*, 2021; Yang, S.J.H. *et al.*, 2021; Zawacki-Richter, O., 2019; Abdurohman, 2025; Maphalala & Ajani, 2025, and others). This is due to the growing popularity in recent years of market-generated AI-based learning platforms. In this regard, more and more students and learners are looking for and using AI technologies to support the learning process, such as tutorials, online learning simulators with feedback, educational chatbots, etc. According to a survey conducted by the Higher Education Policy Institute of more than 1,200 students, more than half of students (53%) use AI in academic writing for which they would be graded, and one in four (25%) use apps such as Google Bard or ChatGPT to suggest research topics, while more than a third (36%) use AI to explain various concepts to themselves (AIPRM, 2024). Thus, it finally becomes clear that the development of AI has a direct impact on educational organizations, resulting in a transformation of the process of integrating digitalization technologies into the educational process and the formation of a "smart" e-learning environment, including one based on artificial intelligence.

INTEGRATION OF AI TECHNOLOGIES IN TEACHING PRACTICE

Today we are all witnessing that the development of technology is an avalanche-like process that cannot be stopped and the integration of AI in education, as in other areas of human activity, is becoming inevitable. This, in turn, necessitates the need to adapt the learning process and teachers to the new conditions and to develop effective approaches and strategies for the application of AI in education, both on the part of students and teachers. In this regard, today more and more countries around the world are discussing national strategies to integrate AI into education. The US is issuing guidelines and tools for the safe use of AI in schools, while China is making AI education compulsory from primary grades, the UAE is making AI an official subject by 2025 with the support of leading technologies, and South Korea and Singapore are fast-tracking teacher training and implementing personalised AI systems for students (Mihaylov, B., 2025). The UK has published its first national guidelines for using generative AI in schools by 2025 and is funding developments to make teachers' work easier, while Finland is betting on mass AI literacy through free online courses and ethical guidelines that are backed by scientific research. (Mihaylov, B., 2025).

In this sense, it is important to pay attention to the fact that in the era of AI, the preparation of teachers and students to increase their knowledge and skills in working with AI becomes urgent, as does the need to revise educational views and programs. Unfortunately, contemporary educators are often reserved about introducing innovative technologies, including those that are AI-based. It should also be taken into account that most lecturers are concerned about the practice of students using AI to simplify the implementation of assigned individual tasks, such as writing term papers, projects, essays and many others, which negatively affects the educational process (Delello et al., 2025; Rahe & Maalej, 2025). Many authors also comment on the challenges related

to ethical issues, algorithmic bias, and technological dependency that can affect critical thinking skills. (Xiao et al., 2025; Susi et al., 2025).

An important aspect of introducing AI into the educational process is training both teachers and students on how to use AI technologies competently. They need to understand how generative algorithms work, what their limitations are, and realize that uncritical use of these tools can lead to errors and insufficient depth of knowledge. In this sense, the successful adaptation of such AI tools requires educators to be willing to bring AI into their teaching practice, but the avalanche of new technologies being generated and AI platforms and tools being integrated into the digital space, results in educators often being ill-informed and unprepared to operate and implement the various AI applications successfully. In this regard, the presented study provides a review and comparative analysis of specialized online AI platforms that are available online and can be used by both educators and students.

The key point in building an effective strategy for implementing AI in education is to consider it as a tool for automating different types of tasks, and in the learning process, lecturers and students must clearly consider the advantages and disadvantages of AI and individual applications, which in turn will improve the development of critical human thought in the learning process. In this regard, it is necessary to review approaches to the design of the educational process so that tasks stimulate the application of knowledge in non-standard situations that cannot be easily solved by generative algorithms. For example, lecturers can focus on interdisciplinary projects, creative assignments that will require an original approach from the students and assignments where the AI is used only as an auxiliary. The ultimate goal of such a strategy is for lecturers to stimulate students towards a process in which AI-generated results are compared with real data, finding inaccuracies or errors, refining or improving the suggestions made by the AI. Such an approach will not only preserve the educational value of the learning process, but will also help stimulate students' critical thinking and their ability to interact with modern technology.

OVERVIEW AND COMPARATIVE ANALYSIS OF POPULAR AI PLATFORMS

This study provides an overview of popular specialised online AI platforms that can be used both by educators in their professional and pedagogical activities and by students in order to prepare interactive presentations. With the help of platforms like these and the AI innovative solutions they offer, the way in which the visual content of a presentation is created is transformed, making the process faster, more efficient and more visually appealing for both educators and students. Tools like these offer a range of features, such as automatically creating individual slides with design suggestions and even generating speaker notes. They analyse the content of the presentation, identifying patterns and trends and making suggestions to improve the visual design and layout of the slides. It is clear that the application of such AI tools are not just helping to save design time, improving the quality of material presentation and d visualisation, but also revolutionises previously known practices.

Some of the most popular platforms for creating presentations using AI in the online space at the moment are:

- **Microsoft PowerPoint with Copilot** – part of the Microsoft 365 subscription package popular among teachers and students, which integrates Copilot (based on GPT) directly into the classic PowerPoint presentation application. (Fig. 1).

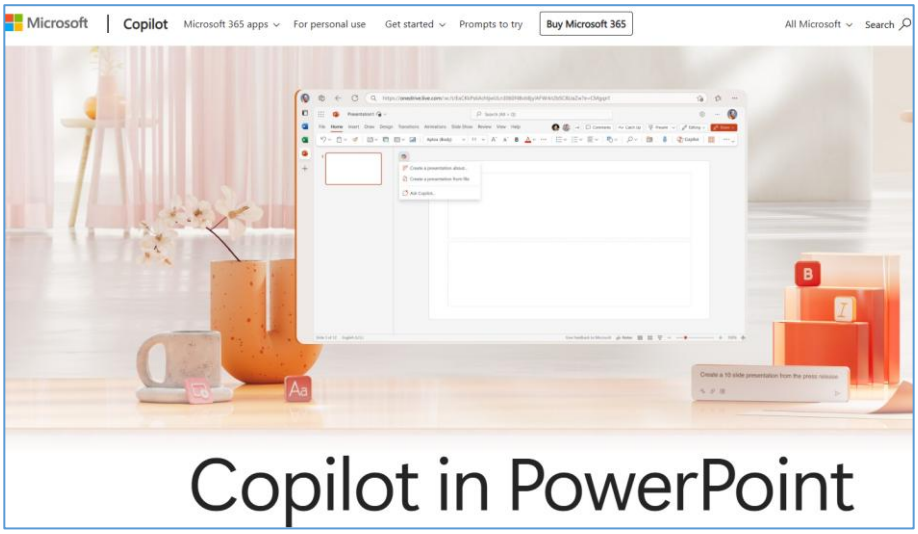

Figure 1: Appearance of the online Microsoft PowerPoint platform with Copilot.
Source: https://support.microsoft.com/en-us/copilot-powerpoint

In this way, AI is integrated into the familiar PowerPoint interface and users don't have to waste time learning new tools, instead they are given the opportunity to generate slides, designs, and text on the fly by submitting simple text instructions or text-based Word documents. In this sense, the AI helps to automatically revise and summarize the content for the presentation slides, shortening or expanding the content as desired by the user. All existing PowerPoint themes and templates are used, but Copilot also applies design automatically to the slides, suggesting ideas and structure for the presentation. Advantages are direct access to Word, Excel, Teams, OneDrive and that everything is saved as a standard .pptx file. As for disadvantages: for teachers and students, Microsoft offers some Copilot features for free (such as Copilot Chat), but full Microsoft365 Copilot integration (in Word, Excel, PowerPoint, Teams, etc.) is paid and requires around $20–30 per month depending on the plan; the generated content is generic and often needs editing for professional presentations, as Copilot is not a graphic designer and does not create completely new visual concepts, but uses ready-made templates from the PowerPoint library. At the same time, to make the apps we've come to know more convenient and productive, Microsoft is constantly integrating other AI features and tools that, for example:Designer (Design Ideas), AI Quick Starter Speaker Coach, Live Captions & Subtitles Brand Kit / Themes AI (Support Microsoft, n.d.).

- **MagicSlides in Google Slides –** a GPT-based AI tool for Google Slides that automatically converts a short text description, video, PDF, YouTube video, or web link into professionally structured slides with the ability to edit and design customization directly in the Google Workspace environment (Fig. 2).

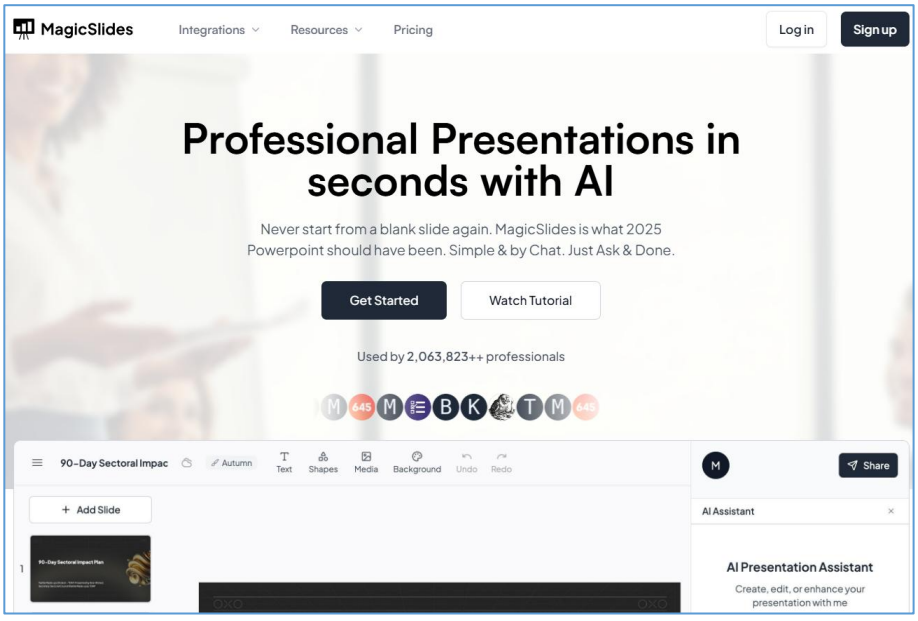

Figure 2: Appearance of the online platform MagicSlides. ***Source:https://www.magicslides.app/***

Key features of the platform include its seamless integration with Google Slides and offers AI images and design templates, as well as support for over 100 languages. Suitable for teachers, students, marketing teams and business users. The disadvantages are the limitations of the free plan – up to 3 presentations per month; input limits (up to 12,000 characters standard), etc. In addition, design customization is limited, often with little variability. AI-generated content may be inaccurate or too general and require editing, especially for specialized browsing topics. Possible technical delays or generation errors (depending on browser).

- **Gamma.app** – an online platform for creating presentations from text prompts, with which educators and students can create flexible presentation slides with atypical sections, embed video and audio content and other elements, customizing their appearance with animation (Fig. 3).

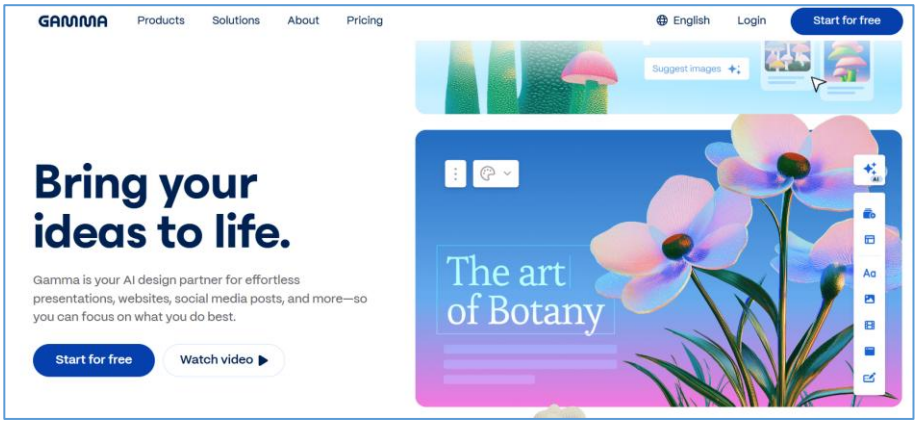

Figure 3: Appearance of the online platform GAMMA. ***Source: https://gamma.app/***

The app provides users with tools and features to create professional presentations using various templates, interactive elements, videos, charts, polls and more. Users can use the built-in text editor with AI assistant to generate ideas or a summary of the topic being developed. One of the features of the resource is the possibility of group collaborative work on a presentation, which can be organized between the instructor and the students, and the finished presentations can be saved and exported in different formats, such as PDF, PPTX, etc., which facilitates sharing with other users and through other applications and software environments. An unfortunate drawback is the fact that exported files can often be messy and unpredictable, and fonts used can be missing, requiring users to manually install missing fonts. There is a free plan, but with limited AI credits (number of times you can generate AI slides), and the cost of the paid plan is between $8–15 per month (Gamma.app, n.d.).

- **Befutiful.ai –** an application that offers users a large library of professional themes and templates, with which educators and students will be able to achieve intelligent automatic layout using an AI designer (Fig. 4).

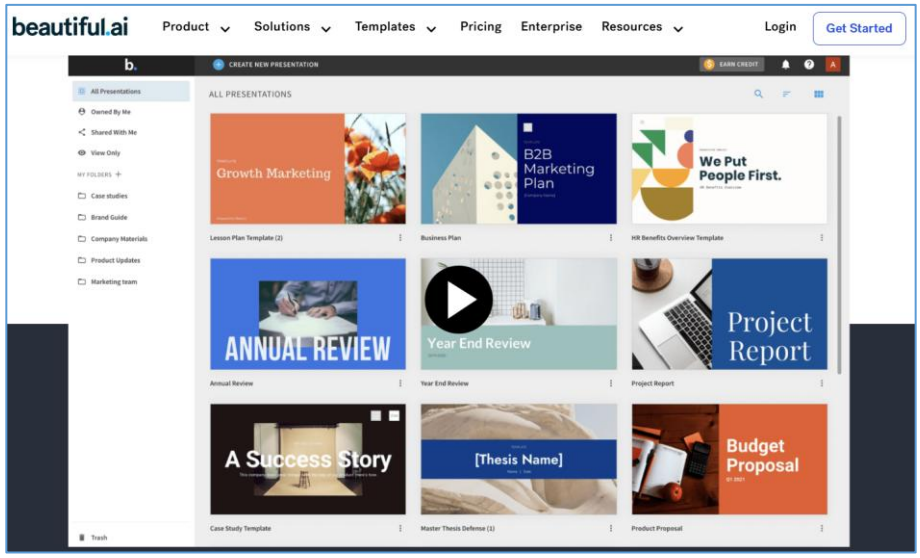

Figure 4: Appearance of the online platform Befutiful.ai. ***Source: https://www.beautiful.ai/***

Advantages are the fast "smart" layout of the slides in the presentation, as well as the possibility of AI automatic formatting of text, graphics and charts. Excellent for people without design skills. Huge library of ready-to-use themes and templates. The app is also suitable for corporate presentations, marketing reports, etc. It allows you to easily export your presentation to PDF, PowerPoint (.pptx), and even video. The downside is that after the free trial period (14 days) expires, you will have to upgrade to a paid subscription for $12 per month for individual use or $40 for a group of up to 20 people, and some plans have limits on exporting to PDF/PowerPoint format.

- **Presentations.AI –** an online platform that offers users fully AI-based presentation creation from a text prompt with built-in design themes (Fig. 5).

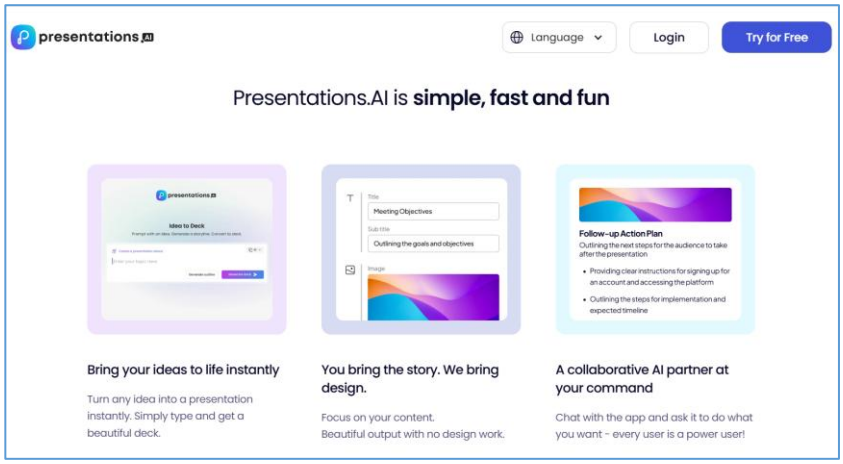

Figure 5: Appearance of the online platform Presentations.AI. ***Source: https://www.presentations.ai/***

The application allows collaboration between professors and students or relevant work teams in marketing, sales, education, etc. It integrates seamlessly with Microsoft 365, allowing quick retrieval of previous presentation by name or date. Particularly suitable for users who are already actively using the Microsoft Teams app and are looking for a collaborative process for creating presentations and previewing content. An advantage is that a starter free plan can be used, which is ideal for novice users and teams, but as a disadvantage in the free version is that it includes limited functionality with a small number of AI credits, no export of presentations (PDF, PowerPoint), lack of access to professional templates, custom fonts and advanced color themes. Unfortunately, even in the paid version (the official price is currently $198 per year per user), exporting to PowerPoint (.pptx) can be lacking and most often exports to PDF only.

- **Canva (c Magic Design) –** popular multipurpose graphic design platform that offers templates for social media posts, marketing materials and presentations, posters, social media graphics, flyers and presentations, allowing users to customize color schemes, fonts and layouts (Fig. 6).

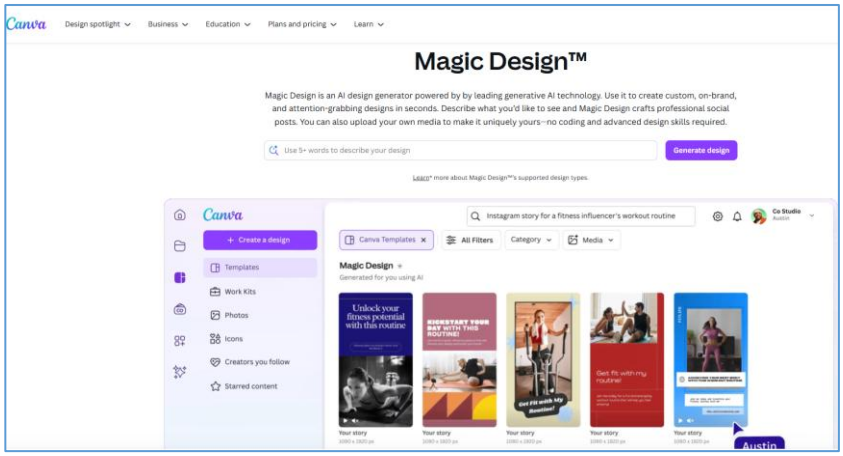

Figure 6: Appearance of the online platform Canva. ***Source: https://www.canva.com/magic-design/***

While Canva offers a huge library of design elements, it lacks a deep AI-powered workflow specifically tailored for automating presentation structure and branding at scale. It offers stylish templates, but they can seem repetitive. AI content is basic, with the Magic Write tool writing basic, even banal, and in need of editing. Using this platform it's harder to make something completely unique or cutting edge. Another disadvantage is that the free plan gives a usage limit of only 50 Magic Write queries per year, and the paid plan can be expensive for students – around $13/month or $120/year.

- **SlidesAI** – a platform with an intuitive interface suitable for novice users to generate a presentation from text almost instantly (Fig. 7).

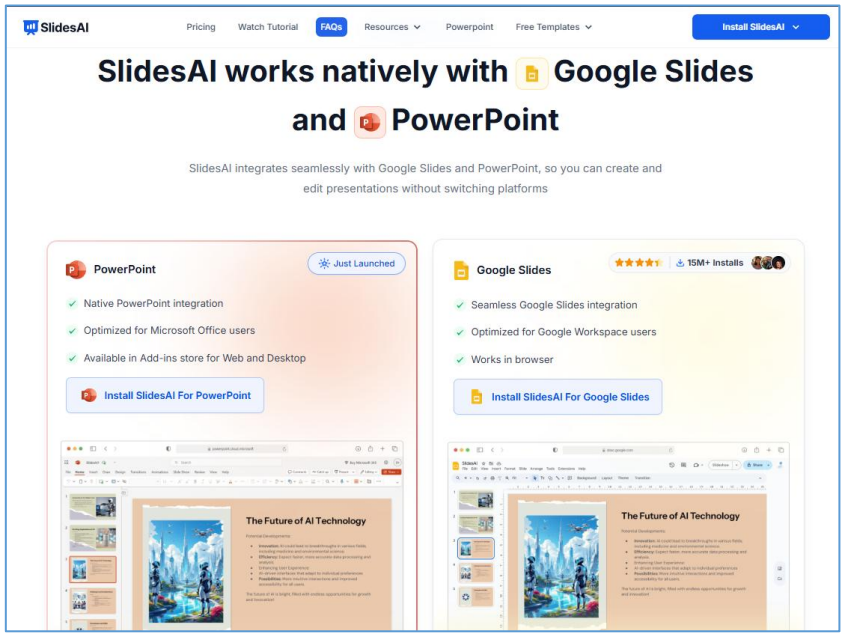

Figure. 7: Appearance of the online platform SlidesAI. ***Source: https://www.slidesai.io/***

It offers integration with Google Slides and PowerPoint, making it a convenient tool for users who already use these applications. Suitable for global use, as it has language support in over 100 languages, including Bulgarian, and also provides access to a huge library of images. It offers flexible pricing plans, with the free plan limited to 3 presentations per month, 10 AI credits, and user-required editing and customization. Compared to the Gamma and Beautiful.ai apps discussed above, the templates are not as visually impressive or dynamic, and there is no support for more creative or non-standard layouts. For more complex topics (technical, scientific), AI sometimes generates too general or incomplete content.

- **Decktopus** – offers a personalized approach that meets the specific needs of users with an intuitive drag-and-drop editor, suitable even for beginners and people without design experience (Fig. 8).

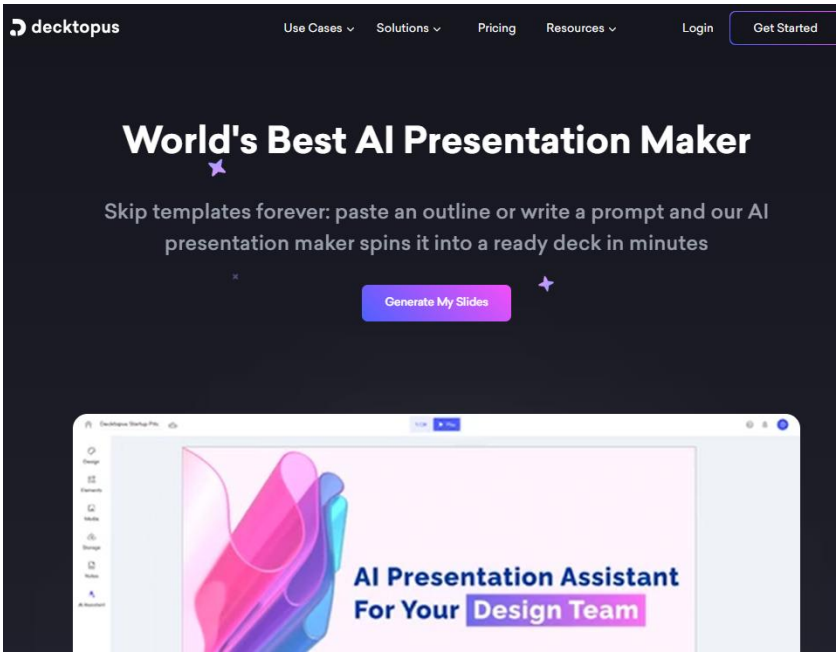

Figure 8: Appearance of the online platform Decktopus. ***Source: https://www.decktopus.com/***

The application automatically generates slides, text, icons, and images from both text and uploaded PDF or Word file. Consumers can get automatic tips on speaking style, pacing, body language and speech with a tool like AI Presenter Coach, in order to increase confidence when presenting to an audience. Advantages include built-in Q&A sessions and interactive forms to keep the audience's attention, as well as tracking the amount of people who have seen the presentation and other useful metrics as part of the Business Plan. Disadvantages are limited customization and that templates are only partially editable; there are no options for more detailed customization and complex design decisions. Lacks tools for dynamic animations or flips between slides. The free version has limited features. Exports may be in non-convertible formats or with limited compatible content for PowerPoint and other programs.

- **Prezi** – one of the most popular presentation platforms known for its unique style, non-linear structure and "zooming" effects (Fig. 9).

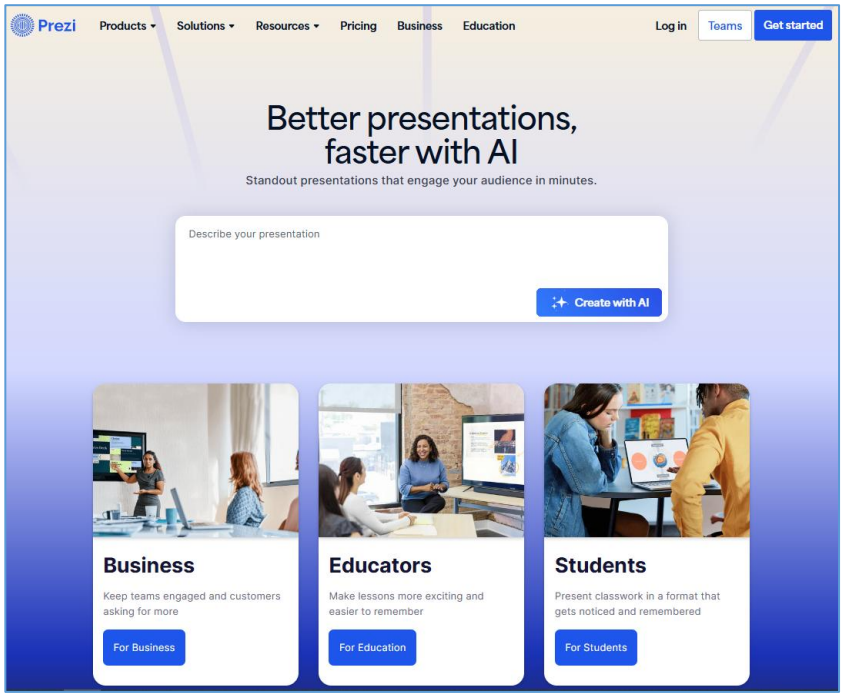

Figure 9: Appearance of the online platform Prezi. ***Source: https://prezi.com/***

The platform is suitable for those looking for a quick and easy way to create professional presentations. It offers an impressive AI-based presentation creation tool that goes beyond the traditional approach and doesn't just add text to slides, but offers a unique non-linear approach to creating and viewing presentations, making presentations more interactive and ensuring that your presentation will remain memorable. Offers a free version that provides basic features, making it accessible to students. As a drawback, it should be noted that once a template is selected it offers limited customization options, which can limit control over the final appearance of the presentation. More powerful computers and stable internet are needed for smooth operation and editing, especially when working with video. The interface and non-linear logic require users to spend more time learning, especially for users who have worked primarily with PowerPoint. There is no built-in AI content generation as with Gamma, SlidesAI or Decktopus.

- **Visme** – platform suitable for teachers, lecturers, learners and students looking for professional educational presentations with good visual content and infographics (Fig. 10).

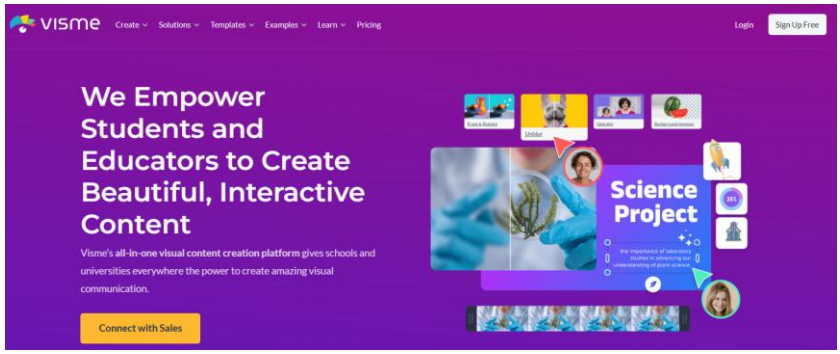

Figure 10: Appearance of the online platform Visme. ***Source: https://www.visme.co/teams/education/***

It offers multiple AI features such as: AI Writer to automatically create text for slides; AI Designer – creates designs according to the submitted content; AI Presentation Maker – automatically generates presentations from text prompts; AI Image Generator – generates images and 3D graphics according to style and theme, etc. Advantages are the availability of a large library of templates, thematically targeted for education with infographics, reports, charts, the ability to insert animations and videos. But as disadvantages are the limited functionality of the free version, limited access to templates and AI features, no ability to download presentations, limited storage (~500 MB). Also limited options when exporting.

- **Simplified** – a presentation creation platform designed for real-time group work where teams can work seamlessly together, creating presentations using AI (Fig. 11).

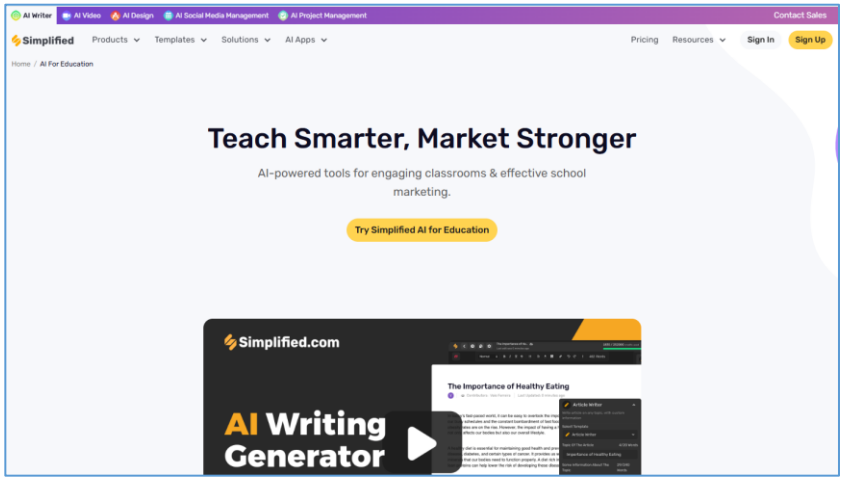

Figure 11: Appearance of the online platform Simplified. ***Source: https://simplified.com/ai-for-education***

With the help of AI, you can customize fonts, colors, and textures, and convert slides into a video presentation by adding transitions. Advantages include customization of language and creativity levels, and the built-in AI text-to-image generator adds variety to the visual appeal of slides, improving creativity. Users have access to a rich library of templates and resources, improving the visual appeal of presentations. Offers flexible export formats, including .png, .jpg, .pdf, and .svg. But as disadvantages, limited .pptx export, limited customization: Although it

offers AI-generated content, customization options for advanced design elements may be limited, and individual AI features are paid separately.

In conclusion, each of the AI platforms considered has unique characteristics that make it suitable for certain tasks. The choice of a particular tool depends on the needs of the educator and the specifics of the educational task, as well as the particular advantages and disadvantages of the platform. In order to overcome the difficult choice among the wide variety in Tab. 1, a comparative analysis of the listed AI tools is performed.

Table 1: Comparative analysis of the considered AI platforms

Platform	Price (month)	Advantages	Disadvantages
Microsoft PowerPoint with Copilot	Requires an existing Microsoft 365 plan + $30 per user per month for Copilot	Integrated AI in the familiar PowerPoint. Generate presentations from Word/Excel text documents. Supports standard .pptx export.	High price. Limited AI credits on standard 365 plan: Some users report still unstable performance or errors.
MagicSlides	$10–15	Integrated into Google Slides support over 100 languages.	Mainly for Google Slides. Free limit is 3 presentations per month. Design customization is limited.
Gamma.app	$8–15	Fast AI content generation with an intuitive interface for users without design skills. Tracks metrics like views, view time, and engagement, which is useful for marketing and business reporting.	There is a free plan, but with limited AI credits. Exported files can often be messy and unpredictable, and fonts used may be missing, requiring users to manually install missing fonts.
Beautiful.AI	$12–40	Professional look, many themes. Easily export the presentation to PDF, PowerPoint (.pptx), even video.	Limited 14-day free plan. Less creative control. Some plans have export limits (PDF/PowerPoint).
Presentations.AI	$16	Integrates seamlessly with Microsoft 365 Extensive template library – you can easily customize styles.	Free plan for only 5 presentations. High price for Pro plan.
Canva	$13	Offers a huge library of design elements and editing with the Magic Write AI tool.	Limitations in the free plan lack a deep AI-powered workflow specifically tailored for automating presentation structure and branding at scale.
SlidesAI	$10–20	Intuitive interface. Very fast creation from text. Speech-to-slides function. Bulgarian language support.	The free version is severely limited and lacks support for more creative or non-standard layouts.

Platform	Price (month)	Advantages	Disadvantages
Decktopus	$10–49	Intuitive interface, Q&A, AI coach, forms and speech tips suitable for beginners Presentation management, analysis Brand templates, colors and logos.	Some features require training Limited creative design flexibility No animations and dynamic visualizations Free version PDF/PPTX support (in paid plan) with limited features.
Prezi	$5–16	Offers a free version with basic features. Unique non-linear approach to creating and reviewing presentations, making presentations more interactive.	Limited customization options after choosing a template. The interface and nonlinear logic require more time to learn.
Visme	$12–59	Multiple AI features. Large library of templates thematically focused on education. Infographics, interactivity.	Limited functionality of the free version, no ability to download presentations. Limited export options.
Simplified	AI features are paid separately $9 – 18	Customization of language and creativity levels, as well as the built-in AI generator for converting text to image. Rich library of templates and resources.	Limited free access credits. Limited .pptx export. Limited customization. Individual AI features are paid separately.

CONCLUSIONS

In summary, the development of AI technologies undoubtedly open up significant prospects in education for the future, and despite the initial caution of educators, the use of AI is becoming a necessity due to the rapid development of technology and the changing demands on the educational environment. In this regard, the conducted research shows that the introduction of AI into already well-known applications makes their use more convenient and productive. Instead of burdening the user with learning new technologies, online resources integrate AI into familiar functionality, simplifying basic tasks and improving the user experience. At the same time, AI technologies can significantly reduce time and labor costs for educators by automating routine tasks such as creating course materials, preparing presentations, generating test assignments, etc.

However, despite all the advantages, AI tools are not always accurate and precise, the slides generated may be "good looking" but the content may not always be quality or logically structured, that requires educators and students to check the facts in the AI generated information. In this sense, AI does not understand emotions or context, which can lead to missing important subtleties that only natural intelligence can detect. Therefore, the fact that AI technology has certain drawbacks and limitations can be seen as a positive aspect, which can be highlighted in front of the learners and in this way stimulate critical analysis. In this regard, the authors maintain that all types of information technologies, including AI technologies, should support human activity but not radically change existing models of higher education. "Machine learning" should not displace and replace "live" learning and interaction between the lecturer and the student.

Finally, the development of methodological recommendations, the training of educators in new approaches and the integration of AI technologies into teaching practice are important elements for the successful adaptation of education to the new realities, but we must also take

into account the fact that it takes time to implement and adapt such new strategies and approaches to teaching, both by educators and the students. The final goal of this technological transformation is to create an educational environment in which AI becomes part of the learning process, supporting it instead of hindering it.

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