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INTERACTIVE WHITEBOARDS AND PROJECTORS AS EFFECTIVE EDUCATIONAL TOOLS

Skryt O.N.

Belarusian State University of Informatics and Radioelectronics, Minsk, Republic of Belarus

Perevyshko A.I. – senior lecturer of the Department of Foreign Languages

Annotation. This article is devoted to the application of interactive whiteboards and projectors in education. Much attention is given to their advantages and disadvantages. The statistics over the past decade and some examples of their potential in various fields are given. It is pointed out the importance of further development and application of these information and communication tools in the educational process.

Keywords: interactive whiteboards, projectors, education, business, advantages, disadvantages, statistics, future perspectives.

Introduction. Nowadays modern technologies are an integral part of our daily life. We can use them to improve our health, education, business, etc. With the development of technologies our world has become more advanced and we can enjoy unprecedented opportunities. One of such examples is interactive whiteboards and projectors.

Interactive whiteboards and projectors have transformed the way we teach and present information in education. These tools have revolutionized the traditional classroom or meeting room experience offering a range of interactive and engaging features. In this article we're going to explore the advantages and disadvantages of using interactive whiteboards and projectors in education and their potential in various fields.

Main part. Interactive whiteboards are large touch-sensitive screens that display digital images, videos and presentations. They allow teachers, trainers and presenters to interact with the content, make annotations and manipulate the information using digital pens or fingers. Interactive whiteboards are also equipped with multimedia features such as sound, video and graphics that can enhance the learning experience [1].

One of the most significant advantages of interactive whiteboards is their ability to increase engagement and participation. The interactive nature of these boards encourages learners to interact with the content, ask questions and collaborate with others. Interactive whiteboards can also improve the quality of presentations by providing a platform for dynamic and engaging presentations. Additionally, these boards can help to save time and resources, as teachers can access and share digital materials.

As for one of the main disadvantages of interactive whiteboards, it is their cost. These boards can be expensive to purchase and maintain, making them a significant investment for schools and institutions. Another limitation is the technical difficulties that can arise with the use of these boards, such as connectivity issues and software compatibility problems. Moreover, some critics argue that interactive whiteboards can be over-relied on, leading to a lack of traditional teaching methods such as writing on a board.

One of the examples of successful application of interactive whiteboards and projectors in education is the "SMART in Schools" project, which was launched in 2007. This project provides students and teachers with access to interactive whiteboards and projectors, allowing them to use information more effectively in the learning process.

Over the past decade the usage of interactive whiteboards and projectors has increased significantly exactly in education. In the education sector, interactive whiteboards are most commonly used in primary and secondary schools as well as training centers. According to the report by Futuresource Consulting the global market for interactive displays in education reached 6.2 million unit sales in 2020 with interactive flat panels accounting for 96% of these sales [2].

According to the report by Grand View Research the global interactive whiteboard market is expected to grow at a CAGR (compound annual growth rate) of over 8% during the period 2023-2030, with a 4.8% growth expected in the United States alone (Figure 1):

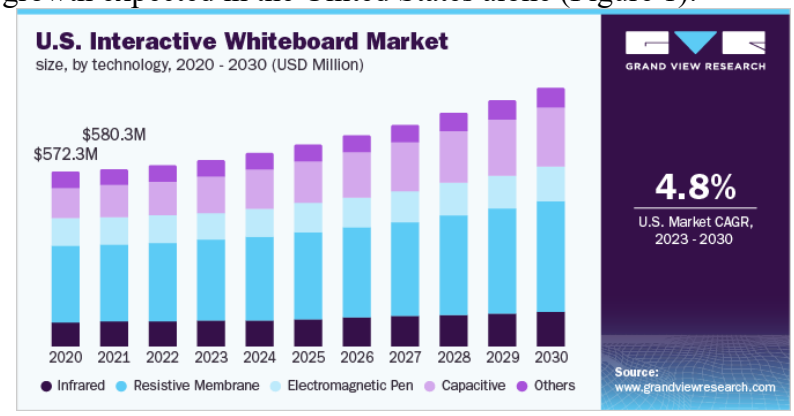

Figure 1 - Annual growth rate

Interactive whiteboards and projectors have proven to be effective tools in various fields. In medicine they are used for training and education allowing doctors and students to interact with virtual models of the human body. In engineering and architectural fields interactive whiteboards and projectors are used for designing and planning enabling teams to collaborate and visualize complex models in real-time. In entertainment industry interactive projectors are used to create immersive experiences for audiences.

The future of interactive boards and projectors looks bright. With the increasing demand in remote learning and working, interactive boards and projectors are likely to play an even more significant role in education in the years to come.

One of the major trends in their development is the integration of artificial intelligence (AI) and machine learning technologies. This will allow the boards and projectors to become more intuitive and personalized to the needs of the user.

Another trend is the integration of virtual and augmented reality technologies which will allow users to create immersive and interactive learning environments. This technology will enable teachers to create 3D models and simulations, allowing students to explore and interact with the subject matter in a more engaging and interactive way [3].

Conclusion. The development of more advanced software and applications will also continue to enhance the capabilities of interactive boards and projectors. This will enable users to create more interactive and engaging presentations, collaborate more effectively with others and access a wider range of educational resources and tools.

As the use of interactive boards and projectors becomes more widespread, it is also likely that the cost of these technologies will decrease, making them more accessible to schools, businesses and individuals.

To sum up, interactive boards and projectors have greatly improved the educational process. With the continued development of new technologies and applications, the future of interactive boards and projectors looks bright. These technologies will continue to enhance the way we learn and work making the sphere of education more engaging, interactive and effective. They are aimed at the final result of the educational process – the training of highly qualified specialists with fundamental and applied knowledge in different spheres.

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