

# DIGITAL MEDIA AND THEIR INFLUENCE ON STUDENTS

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## Abstract

The development of technology and the creation of Artificial Intelligence (AI - Artificial Intelligence) progressed. It is a gradual process, which is upgraded with time and technological progress. Continuous research and development of new methods, algorithms, and techniques lead to achieving machines' desired levels of intelligence. Artificial Intelligence AI is a broad branch of computer science that deals with building smart machines capable of performing tasks that normally require human intelligence. It is a highly innovative area of research and development that permeates many aspects of our society, including education. In recent years, the application of AI in education has seen significant growth and has the potential to change the way we learn and teach knowledge. It can change the way learning is done, improving and personalizing the educational process. In this paper, we will look at the role of artificial intelligence in education and some of its most significant aspects. Learning with artificial intelligence aims to improve student learning and teaching. Artificial intelligence in education seeks to reduce the barrier that currently exists between formal teaching (in class) and the autonomous and independent learning of students. The goal is to promote common methodologies in knowledge building and the stimulation of autonomy. For this, personal communication systems (Internet, mobile devices, etc.) are used outside the traditional spaces where the learning process was developed. Artificial intelligence can contribute to the continuous assessment system by monitoring student performance in real time and predicting possible difficulties that may arise during education.

**Keywords:** Artificial Intelligence, learning, education, intelligence

## Introduction

Digital media is a form of electronic media where data is stored in digital form. It can refer to the technical aspect of storing and transmitting information or to the „end product“, such as digital video, or digital art. Digital media are more and more present in our society and as such we could not imagine everyday life. Through them, we inform, educate, express, etc. It is a matter of time whether digital media will completely replace print media, but in any case, they are well on their way to doing so. However, it is not negative, considering that we are an information-digitalized society, and we use computers and the Internet more and more and we could not imagine our everyday life without them.

The influence of digital media in education is the subject of a large number of research and considerations in the modern education system. With the rapid advancement of technology, digital media are becoming an integral part of learning and teaching, changing the way students engage, interpret information, and develop skills. However, digital media are not only tools for the transmission of information but also experiences and means for innovative learning and teaching. This study aims to explore the impact of digital media in education, focusing on their role in enhancing student learning and development as well as their application in classrooms. Through a literature review, data analysis, and exploration of theoretical concepts, this study seeks to identify and examine the various ways in which digital media influences student learning and development. Every aspect of the use of digital media in education will be analyzed, including their impact on student motivation, engagement, communication skills, critical thinking, and problem-solving. Referring to the positive and negative aspects, we will try to draw conclusions that will support educational institutions and teachers in the process of planning and bringing innovations into school practice.

Through this study, we hope to explore the deep connection between digital media and education, as well as to suggest practical approaches to their effective use in the school environment. A critical analysis of the positive and negative aspects of the use of digital media in education will allow us to identify the challenges and opportunities that these technologies offer us. From this analytical approach, we hope to derive conclusions and recommendations that will be useful for educational institutions, teachers, and students in the process of adapting and improving learning through digital media.

## LITERATURE REVIEW

The historical development of digital media begins with the advent of handheld computers in the first half of the 20th century. In the 1940s and 1950s, handheld computers were large, cumbersome, and expensive machines that were used mostly for military purposes and scientific research. Over time, technology developed and computers began to appear that were smaller, better, and less expensive. In the 1960s and 1970s, computers began to be used in various fields, including education. Many universities and scientific institutions have begun to use computers for research and education. At the same time, the Internet was developing as a communication network between various scientific institutions and military bases. The first forms of electronic mail and online forums began to appear, allowing people to communicate and share information over the web.

In the 1980s, personal computers became available to the general public, paving the way for the wider use of computers in homes and in education. With the advent of interactive educational programs and multimedia content, computers have become an integral part of learning and education. During the 1990s and 2000s, the Internet became globally available, transforming the way people communicate, learn, and work. With the advent of social media, online educational platforms, and virtual classrooms, digital media has become an indispensable part of education and society as a whole.

Today, digital media are of great importance to education, providing access to a large number of educational resources, interactive textbooks, and collaborative learning tools. With the continued advancement of technology, digital media is expected to continue to evolve and have an ever-increasing impact on the way we learn, work, and live. Digital media presents itself as a cardinal part of modern society, introducing major changes and innovations in various aspects of our lives. In education, their meaning is particularly significant, although it can also be spread to other spheres of our everyday life. Initially, digital media allow students to access a vast amount of information and resources, which causes a significant improvement in the educational process. Through the Internet and electronic resources, students can access the latest scientific research, educational videos, virtual field trips, and many other resources, which enrich their learning and build their knowledge capacity.

In addition, digital media improves students' communication skills, offering opportunities for interaction and collaboration through different platforms and applications. Through virtual classrooms, discussion forums, and online collaborative tools, students can share ideas, work on joint projects, and learn from each other, without the limitations of physical presence. It is also important to point out that digital media encourages critical thinking and creativity in students. With activities such as analyzing media content, creating multimedia projects, and experimenting with new technologies, students are encouraged to think critically, express themselves creatively, and find innovative solutions to problems. However, although digital media have many positive aspects, the potential danger of their improper use should also be highlighted. Abuse of social media, addiction to video games, and exposure to inappropriate content can have negative consequences for students, including loss of concentration, learning delays, and social problems.

Digital media play a key role in improving education, enriching learning, and encouraging student development. With proper use and control, they can be a powerful instrument for progress and innovation in education. Today, the media is a very important part of a young person's everyday life. Without a doubt, many young people spend most of their day in front of the TV or in front of their computer, much more than with their family or at school. Many experts claim that in terms of education, the media has taken the place of the school and the family in modern society.

With the rapid development of technology and the use of cable and satellite television, home theater, Internet, etc., the use of electronic media has suddenly grown. According to some, this offers a greater choice of products and services for users, according to others, all media offer is, in fact, a variation of one or several of the same things. On the other hand, technological development has made cell phones, cameras, and computers much cheaper and much more accessible, allowing users to simultaneously become producers and creators of media texts and messages. The ubiquity of commercial influences in modern society has not left the media untouched either. Several public or state radios and televisions are now just one of the many choices on our remote control. In contrast, the world is dominated by private media corporations that own a wide variety of media (newspapers, magazines, television, publishing houses, video game industries, film productions, etc.). Naturally, those who have the financial power (private media corpo-

rations) are at an advantage over the state ones because they can create better media content and gain as much audience as possible. Advertising, sponsorships, etc. penetrate more and more deeply into the public sphere and influence the editorial policy of the state media.

Hence, the media fight for as many audiences as possible, because that's how companies that want to advertise are attracted, and ads are the biggest source of profit, which is usually the ultimate interest of the media owner. That is why the media will very rarely produce and broadcast media content that is against the interest of their owners or, on the other hand, the interest of those who advertise in those media. The way we understand ourselves and others is largely due to the content we create and receive through the media. The ubiquity of images, information, music, etc. in our lives has created an opportunity to understand ourselves in a variety of ways, the choice of idols, examples, personalities, and stories with which we compare ourselves is much greater and consequently the way we understand and experience ourselves (our identity) has more layers. Also, our relationship with family and friends is changing, and with it the culture itself. One can talk less and less about a specific „Macedonian culture“. The songs we like, the movies we watch, socializing through Facebook, the fashion choices we make, etc., we communicate all this with people from other parts of the world and thus share many common cultural practices (behaviors), that are not Macedonian, but global.

In the world today, radio, television, computers, and the Internet are our dominant cultural tools for searching, selecting, collecting, storing, and transmitting knowledge. There is no longer a distinction between traditional and digital media and one can read a newspaper, watch TV, and film on a computer or mobile phone. However increasing knowledge through the use of mass media and communications has both its advantages and disadvantages. While adopting their good points, we should try to avoid the negative ones. That is why we need to develop media literacy, especially among children, a population born and raised with new information and communication technologies, present both at home and at school.

Research and practice in the last two decades show that young people are getting along with the Internet, new media and technologies. In the past, it was enough to know the Cyrillic and Latin alphabets to be able to read. Technical knowledge is now necessary, but also comprehensive education about what media and media content are. And they are an ocean in which you must have knowledge to navigate, an ocean that is a whole new world in which you communicate differently and which changes everything. Media programs the habits of young people when it comes to their use and way of seeing the world, influencing expectations regarding interpersonal relationships, personal attractiveness, success, fame, health, problems, and their solutions. Worldwide research and data indicate that children are among the most faithful viewers of television content (an average of about 4 hours) and active users of Internet content, although given their sensory, physical, and cognitive abilities, they are the least prepared for it. Therefore, many developed countries began to include media education in the curricula of primary and secondary schools more than a dozen years ago.

Already in 1964, UNESCO encouraged the idea of media education, which would increase media understanding and develop critical media awareness among young users. The path to the democratic upbringing of children is wide open and outlined in many European documents and recommendations that advocate a democratic and civil society that will protect the rights of citizens and children to be informed and protected from uncontrolled media production. The European Center for Media Competences points out that the terms „media literacy“ and „media competencies“ are often used interchangeably today. Media literacy sometimes refers to skills related to a particular medium, such as computer literacy, or a group of media such as technological or digital literacy, while media competencies include all these different types of literacy, i.e. not just the skills, but also the knowledge and expertise.

Media competence, which is often treated as a cultural technique, means „the ability to navigate the world of media in a critical, reflective and independent way, with a sense of responsibility, using media for independent and creative expression, etc.“ It is the key skill in work, education as well as in leisure and important for all target groups in society.

## **RESEARCH METHODOLOGY**

The Internet and the mobile phone, beyond their entertainment nature, offer a new form of socialization, exchange, and access to basic knowledge for children and adolescents today. These new technologies represent a huge opportunity to improve the quality of life of young people around the world and put an unlimited amount of knowledge with just one click in all the basic areas of their existence (education, health, science, culture, etc.). But the progress of the digital age is not without a price. This virtual revolution has created dangers and risks, often like those in the real world, that young people face online. This research is based on a qualitative approach, which allows for a detailed analysis and interpretation of the complex aspects of the influence of digital media in education. The application of qualitative methods enables a detailed understanding of the perceptions, experiences, and opinions of the research participants. The primary source of data was a survey that was distributed to students and teachers in different schools. The survey contained a combination of closed and open questions, which allowed for a detailed analysis of the various aspects of the application of digital media in education. Data obtained from the survey were analyzed using qualitative and quantitative text analysis methods. This included identifying themes and trends in the participants' responses, as well as analyzing the frequency of certain expressions and concepts. In addition to the survey, interviews were also conducted with teachers and students, which enabled additional details to be obtained about their experiences and perceptions regarding the use of digital media in education. The research methodology aims to enable detailed and exhaustive research on the topic and provide relevant and significant results that will contribute to the improvement of education through the integration of digital media in teaching.

## **FINDINGS / RESULTS**

To be able to reach the right answers about the application of digital media in education through which we will get to know the positive and negative aspects of the influence of electronic media, we analyzed the answers received from the respondents. The survey questionnaires were intended for students and teachers (appendix 1 and 2). This research includes 120 students aged 14 and 15 from 6 primary schools in the Republic of North Macedonia. Based on the questionnaire, we can conclude that more than 90% of students use digital media. About 70% could distinguish the advantages of using digital media, while about 60% could perceive the negative aspects of using digital media in education, specifically in the learning process. They all have access to digital media both at home and at school. The number of students who are not able to use digital media at home is very small, but they do so at school. In contrast to them, from the analysis of a survey questionnaire for teachers, it was established that teachers also use digital media almost daily. As the most commonly used digital media, they single out presentations and video materials, but after monitoring online teaching during the COVID pandemic, they are already making extensive use of e-textbooks and interactive sites. They consider that digital media have a great positive influence on teaching and mastering the teaching material more simply and interestingly. However, teachers also perceive the negative aspects of the use of digital media, es-



pecially in encountering a large amount of misinformation and how to deal with it. They express their attitude from insufficient familiarity with media literacy. They believe that first of all they need additional training where they would expand their knowledge on this topic and implement it even more successfully in front of the students. When asked where they use them the most (in which subjects), the largest number, that is, about 76%, do it in courses in natural sciences or working with computers. A small number of teachers use digital media in other subjects.

## DISCUSSIONS AND CONCLUSIONS

In modern conditions, people are increasingly bombarded from all sides with informative, entertaining, and educational content, which conveys information using combinations of words, images, and sounds that reach all the senses, influencing thoughts and feelings, as well as the way of thinking and behavior. Therefore, to be a successful student, responsible citizen, or productive worker, competencies are needed for the „smart“ use of information from all available media. For that, they must develop skills that will help them understand messages and successfully use all the tools at their disposal to create and send their messages. In other words, being literate in the media-dominated digital age means possessing critical thinking skills, which not only enable the appropriate use and creation of media messages but also help in making relevant and responsible decisions in all other situations. from everyday living. Media literacy education is expected to enable students to access the media, analyze messages and evaluate the information they receive, create media messages themselves, and act, i.e. use the information they receive through the media safely and responsibly. This means that during the educational process, students should learn how to access the media to get the most different types of information, but also acquire digital skills to be able to effectively use the media and media applications, which are constantly changing and are being upgraded. After learning to access media content, students need to acquire skills to analyze media messages. Disinformation, fake news, media manipulation, and sensationalism are not equated with quality journalism, which is in line with professional standards. Therefore, the quality of the media is closely related to the development of media literacy. Media literacy contributes to quality and ethical journalism, and trust in the media through partnerships between the media, government institutions, and citizens, stimulating active citizen participation.

This research analyzes the influence of the state of the media and media literacy on the skills of journalists themselves to produce quality media products. The findings of the research show that the poor economic situation in which the media find themselves, as well as political pressures and the manipulation of media content to achieve political goals, are the main reasons for the decline in the quality of journalism in S. Macedonia. It contributes to media workers being easily vulnerable to direct or indirect pressure. There is also a close connection between the independence of the media and quality of media products, and the integrity of media workers, that is, respect for media standards and editorial culture are key to the quality of media products. Raising awareness about the role of the media as drivers of democracy in society is crucial, and improving the situation with the media should be treated as a strategic goal.

From the research itself and the responses from teachers and students, we can already see that the use of digital media has both positive and negative impacts. The process of data analysis and literature review enabled the collection of relevant information and the identification of several key aspects of the impact of digital media in education. We would mention the following as basic:

- **Increased motivation and engagement:** The results showed that students who use digital media in learning express greater motivation and engagement in the educational process. The interactive and visual aspects of digital media stimulate students to engage more and have positive learning experiences.
- **Improvement of communication skills:** The application of digital media in teaching contributes to the improvement of students' communication skills. Virtual discussions, online collaboration, and teamwork encourage students to develop their communication and collaboration skills.
- **Improving critical thinking and problem solving:** Students who use digital media in learning show greater ability for critical thinking and problem solving. Interactive content and problem-based tasks available through digital media challenge students to think creatively and seek solutions to various challenges.
- **Need for structured training for teachers:** The results showed that there is a need for structured training and support for teachers in the application of digital media in teaching. Teachers expressed a need for training and resources to integrate digital technologies into their classrooms.

Regarding what are the positive functions of digital media, we would mention the following:

- **Informative:** Digital media have the power to do many good deeds, allowing people to acquire numerous information that are significant for the environment, thus ensuring their right to be informed and to transmit that information. Digital media are key to creating impressions, experiences and feelings that allow people to understand the world.
- **Educational:** Nowadays, a key role in the spread of knowledge is played by the digital media, which, in addition to being informative and entertaining, also play an important role in the upbringing and education of their users. They provide quick access to information about historical, cultural, geographical, sports and other opportunities, or simply about everything we are interested in. They create new opportunities that young people use in the process of informal education.
- **Entertainment:** In addition to informing and educating us, digital media also contribute to solving everyday practical life problems. Nowadays, entertainment is necessary to reduce the tension of everyday fast-paced living, and it is primarily provided by the media.
- **Social networks:** There are many benefits of social networks. In addition to being able to communicate with people more easily and quickly, to be informed, to make contacts, to meet new people. Connect with people we already know or exchange content. They can also have the function of humanitarian, educational, professional platforms, platforms for advocating various social issues, etc.

In the further presentation, we will see what are the positive and what are the negative impacts of the application of digital media in education.

- **Simplifying access to educational resources:** Digital media provide access to numerous educational content online, including e-books, video lessons, interactive textbooks, and online courses. This increases the number of resources available to students, facilitating them in the learning and research process.

- **Interactive learning and engagement:** Digital media provide interactive learning content and tools that stimulate students to engage in learning. Multimedia content, virtual simulations and learning games make students ready and interested in learning.
- **Improving communication skills:** The use of digital media enables communication and collaboration between students and teachers through various platforms for online discussions, forums and virtual classrooms. This allows students to improve their communication and collaboration skills.
- **Individualized learning:** Digital media enable personalized learning, where students can access educational content and work at their own pace and according to their needs and interests. This allows students to develop their strengths and overcome their weaknesses.
- **Development of critical thinking and problem solving:** Using digital media encourages students to think critically, analyze information and find creative solutions to problems. Interactive tasks and learning games motivate students to explore new ideas and develop critical thinking.

We will mention the following as negative aspects:

- **Excessive use and addiction:** One of the main challenges of using digital media in learning is that addiction or excessive use can develop. This can result in a loss of focus and concentration in students, which can reduce their learning success.
- **Lack of interaction and socialization:** The use of digital media can reduce opportunities for face-to-face interaction and socialization between students and teachers. This can lead to reduced communication and teamwork, which are considered important elements in the development of social skills.
- **Digital disobedience and unnecessary embellishment:** Some students may face challenges in controlling their use of digital media, which can result in distractions and disobedience in the classroom. This can distract students from learning and reduce their academic performance.
- **Security challenges and risks:** Using digital media can expose students to security risks, such as internet abuse, cyber mobbing and access to inappropriate content. Insufficient training and awareness of internet safety can expose students to the dangers of the internet.
- **Technical challenges and lack of resources:** Some schools may face technical challenges and lack of resources to successfully use digital media. This can create disparities in access to education and exclude students who cannot have the same access to technology.

## CONCLUSION

Digital media are more and more present in our society and as such we could not imagine everyday life. Through them, we inform, educate, express, etc. It is a matter of time whether digital media will completely replace print media, but in any case, they are well on their way to doing so. However, it is not negative, considering that we are an information-digitalized



society, and we use computers and the Internet more and more and we could not imagine our everyday life without them. The study of the positive and negative aspects of the use of these media has shown that they have great potential to enhance learning and improve the student experience, but also cause certain challenges and risks that need to be overcome.

The positive aspects, such as increased motivation, improvement of communication skills, and improvement of critical thinking and problem solving, are significant and have the potential to improve the quality of education. However, negative aspects such as dependency, lack of interaction and socialization, security challenges, and technical challenges require careful management and application of strategies to overcome them. This research offers important conclusions and recommendations for teachers, schools, and educational institutions for the successful integration of digital media in education. Through the implementation of appropriate practices and strategies, the potential of digital media can be used to improve education and prepare students to successfully deal with the challenges of the digital age.

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Annex 1

QUESTIONNAIRE FOR STUDENTS

**1. How often are digital media used in your classroom?**

- Always
- Sometimes
- Rarely
- Never

**2. What types of digital media are most often used in your classroom?**

- Presentations
- Video materials
- Interactive websites
- E-books
- Other (specify)

**3. What is your attitude towards the use of digital media in learning?**

- I love him
- I am indifferent
- I do not like it

**4. What do you think are the biggest advantages of using digital media in learning?**

**5. Do you think that you receive sufficient support and training for the successful use of digital media in learning?**

- Yes
- No
- Partially

**6. How do you rate your overall success when using digital media in learning?**

- Better
- The same
- Worse

**7. What types of digital media are most attractive to you and why?**

- Video materials
- Interactive tools
- E-books
- Learning games
- Other (specify)

**8. Do you have access to digital media in your home environment and how often do you use it for learning?**

- Yes
- No
- Sometimes

**9. What specific subjects or areas of learning do you find most appealing when using digital media?**

- Mathematics
- Languages
- Science
- Informatics
- Other (specify)

**10. How do you feel about your personal engagement and motivation when using digital media in learning?**

- Greater engagement
- The same
- Less engagement

## Annex 2

### QUESTIONNAIRE FOR TEACHERS

**1. How often do you use digital media in your teaching practice?**

- More often
- Sometimes
- Rarely
- Never

**2. What types of digital media do you use most often in the classroom?**

- Presentations
- Video materials
- Interactive websites
- E-books
- Other (specify)

**3. In your opinion, what are the biggest advantages of using digital media in education?**

**4. In your opinion, what are the biggest challenges and obstacles for the successful implementation of digital media in the classroom?**

**5. Do you think you have enough training and support for successful integration of digital media in teaching?**

- Yes
- No
- Partially

**6. Do you think that the use of digital media improves student results?**

- Yes
- No
- I'm not sure

**7. How do you rate your abilities to use different digital tools in the classroom?**

- High
- Intermediate
- Low

**8. Have you noticed any differences in student engagement when using digital media compared to traditional teaching methods?**

- Yes, I noticed differences
- No, I didn't notice any differences

**9. Which specific areas of your teaching practice benefit the most from digital media?**

- Mathematics
- Languages
- Science
- Informatics
- Other (specify)

**10. What are your main challenges in integrating digital media in the classroom and how do you think they can be overcome?**

- Lack of resources
- Insufficient training
- Technical problems
- Motivation of students
- Other (specify)



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