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TRANSFORMATION IN EDUCATION: NAVIGATING CHALLENGES AND OPPORTUNITIES

Education is an ever-evolving field, and adapting to our rapidly changing society is essential. Educational transformation involves reimagining traditional practices to align with the demands of the digital age. This includes integrating new technologies, innovative teaching methods, and fostering a culture of continuous learning. In recent years, the need for educational transformation has become evident. The traditional focus on rote memorization and standardized testing falls short in preparing students for real-world challenges. In today's digital era, students require critical thinking, problem-solving, and collaboration skills to thrive in the workforce. By embracing transformation, we can equip students with the necessary skills for success in the 21st century.

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ТРАНСФОРМАЦИЯ В ОБРАЗОВАНИИ: МЕЖДУ ВЫЗОВАМИ И ВОЗМОЖНОСТЯМИ

Образование – постоянно развивающаяся сфера нашей жизни, и чтобы соответствовать потребностям быстро меняющегося общества, необходимо быть готовым к трансформации. Трансформация в образовании означает переосмысление традиционных практик с целью лучшего соответствия требованиям цифровой эпохи. Это включает в себя внедрение новых технологий, применение инновационных методов преподавания и создание культуры непрерывного обучения. Традиционная модель обучения, с ее акцентом на заучивании и стандартизированных тестах, больше не способствует подготовке студентов к реальным вызовам. В современной цифровой эпохе студентам необходимы навыки критического мышления, решения проблем и сотрудничества, чтобы успешно справляться с требованиями рынка труда. Осознавая трансформацию, мы можем создать систему образования, которая обеспечит студентов необходимыми навыками для успешной жизни в XXI веке.

Ключевые слова: *трансформация в образовании, бизнес аналитика, искусственный интеллект*

Education is a constantly evolving field, and in order to meet the needs of our rapidly changing society, it is crucial to embrace transformation. Transformation in education refers to the process of reimagining and reinventing traditional educational practices to better align with the demands of the digital age. This includes embracing new technologies, adopting innovative teaching methods, and fostering a culture of continuous learning.

The need for transformation in education has become increasingly evident in recent years [1-3]. The traditional model of education, with its focus on rote memorization and standardized testing, is no longer sufficient to prepare students for the challenges they will face in the real world. In today's digital era, students need to develop critical thinking, problem-solving, and collaboration skills to

thrive in the workforce. By embracing transformation, we can create an education system that equips students with the skills they need to succeed in the 21st century.

Digital transformation in higher education. One area where transformation is particularly crucial is higher education. Digital transformation in higher education encompasses the integration of technology into every aspect of the learning process, from online courses and virtual classrooms to digital textbooks and interactive learning tools. This not only enhances the learning experience for students but also opens up new opportunities for collaboration and engagement.

Digital transformation in higher education has numerous benefits. Firstly, it allows for greater flexibility and accessibility. Online courses, for example, enable students to learn at their own pace and fit their studies around other commitments. Additionally, digital tools can provide personalized learning experiences, tailoring content to individual student needs and preferences. This individualized approach can lead to improved student outcomes and a more engaging learning environment.

Benefits of digital transformation in education. The benefits of digital transformation in education are not limited to higher education. In primary and secondary schools, digital tools can enhance teaching and learning by making lessons more interactive and engaging. For example, virtual reality can transport students to different historical periods or geographical locations, bringing the curriculum to life. Gamification is a questionable trend. On one hand, it can turn learning into a fun and immersive experience, motivating students to actively participate in their education, on the other hand, students might lose the ability to work with traditional paper books. The tactile experience of flipping through pages, underlining key points, and making handwritten notes can be sacrificed in the pursuit of digital engagement. Finding the right balance between gamification and traditional methods is crucial.

Furthermore, digital transformation can help bridge the gap between students and educators. Online platforms and communication tools facilitate seamless collaboration, allowing for real-time feedback and discussion. This fosters a sense of community and enables students to connect with peers and experts from around the world. By breaking down geographical barriers, digital transformation promotes diversity and inclusion in education.

Strategies for successful digital transformation in education. To successfully implement digital transformation in education, a comprehensive strategy is required. This strategy should include clear goals and objectives, a plan for teacher training and support, and a framework for evaluating the impact of digital technologies on student learning outcomes. Additionally, collaboration and communication between educators, administrators, and policymakers are essential for effective implementation.

Furthermore, it is crucial to involve students in the process of digital transformation. Students should be encouraged to provide feedback and contribute to decision-making, as they are the ones who will ultimately benefit from these changes. By engaging students as active participants, educators can ensure that the transformation aligns with their needs and aspirations.

Learning Business Intelligence is crucial for future success. Studying powerful business intelligence (BI) tools like Power BI and Tableau is important for modern students for several reasons [4]. Firstly, these tools are essential for data analysis and visualization, which are crucial skills in today's data-driven world. Power BI and Tableau enable users to connect to various data sources, clean and transform data, create interactive dashboards, and share insights with stakeholders. By mastering these tools, students can enhance their data analysis skills and become more valuable to potential employers. Secondly, Power BI and Tableau are widely used in various industries, including healthcare, finance, marketing, and technology. Companies rely on these tools to make informed decisions, optimize operations, and gain a competitive advantage. Therefore, having experience with BI tools can increase students' job opportunities and career prospects. Thirdly, BI tools are constantly evolving, with new features and functionalities being added regularly. By studying these tools,

students can stay up-to-date with the latest trends and best practices in data analysis and visualization. This can help them stand out in the job market and become leaders in their respective fields [4, 5]. Lastly, Power BI and Tableau are not just tools for data analysis and visualization; they are also platforms for storytelling and communication. By creating compelling visualizations and dashboards, students can effectively communicate complex data insights to non-technical audiences, making them more effective communicators and leaders.

In conclusion, studying BI tools is essential for modern students who want to succeed in the data-driven world. These tools enable students to enhance their data analysis skills, increase their job opportunities, stay up-to-date with the latest trends, and become effective communicators and leaders.

Graphic Design. Graphic design understanding is essential for modern students as it provides a solid foundation in design principles, software mastery, and user experience (UX) design skills. Graphic designers need to understand the visual aspects of communication, such as typography, color, layout, and imagery, as well as the user experience of their products, such as websites, apps, or games. Graphic design education can teach user research methods, software mastery, UX and UI design skills, lifelong learning skills, collaboration, communication, negotiation, and research skills, which are all essential in building a world-class solution [6].

Graphic design education often focuses on the visual aspects of communication, but in the digital age, graphic designers also need to consider the user experience (UX) of their products. UX design is the process of creating products that are easy, enjoyable, and meaningful to use for the target audience. Graphic design education can teach user research methods, such as surveys, interviews, personas, and scenarios, to help students empathize with the user and define the problem they are trying to solve. User research can also inform the design decisions, such as choosing the right fonts, colors, and icons, that match the user's preferences and context [7].

Teamwork and project management. Teamwork and project management are essential skills for modern students due to several reasons. These skills can greatly benefit students in the long run, both in their academic and professional careers. Firstly, teamwork helps students develop effective communication skills, which are crucial for conveying thoughts and ideas clearly to others. By cultivating leadership skills, students can communicate their vision for the team and motivate their peers towards achieving a common goal [8,9]. Teamwork also enhances problem-solving and decision-making skills, as students learn to navigate conflicts and come up with solutions that work for everyone [9]. These skills are vital for working effectively in any work setting and making students more productive employees. Secondly, project management is important because it enables the team to learn from the successes and failures of the past and document those learnings. Project managers can have informed conversations with clients, teams, and stakeholders, make informed decisions about the work the team is doing, and help teams troubleshoot when problems arise [10]. Project management also helps to address some of the major challenges that come with remote work, such as communication, scheduling, and collaboration [10]. Thirdly, teamwork skills are essential for success in projects and school assignments. Group work provides an opportunity to learn and develop skills while capitalizing on each member's unique strengths. However, group work can be challenging, and some students may struggle to work with others. To encourage students to improve their teamwork skills, teachers can provide tips such as communication, active listening, and compromising [9]. Lastly, teamwork skills are crucial in any career. As a group member, it is important to have collaborative skills, as you will often be working as a team in a group setting. Members must be able to work with others, despite differences in personality, in order to perform their tasks effectively [9].

Leadership. Servant leadership is a leadership philosophy in which the leader's main focus is to serve the needs of their employees, rather than the traditional leadership approach of focusing on the organization's goals [11-13]. This approach is based on the idea that when leaders

prioritize the growth, well-being, and empowerment of their employees, the organization as a whole will benefit [12].

Servant leadership philosophy is centered on the idea that the servant-leader is servant first, focusing on the growth and well-being of people and the communities to which they belong. This is in contrast to traditional leadership, which generally involves the accumulation and exercise of power by one at the "top of the pyramid". Servant leadership involves several key characteristics, including empathy, awareness, building community, and commitment to the growth of people. Servant leaders prioritize the needs of their employees and help them develop and perform as highly as possible. They share power, put the needs of others first, and help people develop and perform as highly as possible. This approach has been shown to have numerous benefits, including increased employee engagement, personal growth, and organizational growth [11-13].

Learning about servant leadership is crucial for modern students because it instills essential qualities and skills that are highly valuable in today's society. Servant leadership emphasizes empathy, active listening, humility, and a focus on serving others before oneself. By understanding and practicing servant leadership, students develop a deep sense of compassion, respect, and the ability to empower and support others effectively. These qualities are not only beneficial in personal relationships but also in academic settings and future careers, where collaboration, understanding, and ethical leadership are highly valued. Additionally, servant leadership fosters a positive work culture, enhances teamwork, and promotes personal growth, all of which are essential for success in the modern world.

ChatGPT is a tutor, an assistant or a replacement for human teachers. ChatGPT can indeed act as a tutor and assistant for modern students in a variety of ways. It can be used to generate lesson plans, provide student feedback, create quizzes or tests, and extrapolate notes into longer-form expositions [14]. ChatGPT can play the role of a debate opponent and generate counterarguments to a student's positions, for example [18]. Additionally, it can serve as a mentor or simulator of real-world scenarios to promote student inquiry and aid project-based learning, empowering students to make decisions during student-led inquiries that are aided by AI [15]. Furthermore, ChatGPT can be used to simulate scenarios, providing an expert experience for students and helping them overcome obstacles in their thinking [15].

However, it is important to note that ChatGPT is not a replacement for human teachers. It cannot establish the emotional connection with students that is the hallmark of great teaching, and it cannot serve as the teacher of record on transcripts [14]. Additionally, while AI tools like ChatGPT have potential to transform education, one fundamental challenge is their lack of reliability. How to ensure the accuracy and reliability of AI-generated responses is a key concern for educators [14]. Therefore, it is recommended to view ChatGPT as a teaching assistant rather than a replacement for human teachers [17]. It can be used to augment and enhance the teaching and learning process, but it should not replace the essential role of human teachers in the classroom. And we need to figure out a way to adjust to AI tools, and not just ban them [16].

Case studies of successful digital transformation in higher education. Several universities have successfully embraced digital transformation in higher education. For example, the University of Derby in the UK has implemented a virtual learning environment that allows students to access course materials, participate in discussions, and submit assignments online. This has increased flexibility and engagement, leading to improved student satisfaction and achievement. Similarly, the Massachusetts Institute of Technology (MIT) offers a range of online courses through its OpenCourseWare initiative. These courses are available to anyone, anywhere, free of charge. By leveraging digital technologies, MIT has expanded access to high-quality education and reached learners who may not have had the opportunity otherwise.

Our personal experience is within the discipline Information Technologies for the first year students of Marketing and Business Administration. Powerful business intelligence (BI) tools like Power BI and Tableau have demonstrated considerable promise for educational applications, being effectively deployed [19, 20] utilizing data visualization and analysis, decision support, engagement and personalization, predictive analytics.

Engaging students in practical IT classes encompassing picture editing, mobile app and website design, along with learning agile and scrum methodologies, project management, and collaborative teamwork [21], has been an immensely rewarding experience. Using Adobe Photoshop for picture editing has allowed students to explore the intricacies of digital image manipulation. The hands-on nature of these exercises has encouraged experimentation and fostered a deep understanding of visual design principles. Transitioning to mobile app and website design with Figma has provided students with a comprehensive understanding of user-centered design. Collaborating in real-time, students have ideated, prototyped, and iterated on designs, learning to prioritize user needs and create intuitive interfaces. Through feedback loops and iterative design processes, students have cultivated a mindset of continuous improvement and user empathy. In parallel, exploring graphic design and website building with Canva and Tilda has empowered students to express their creativity and develop practical skills. Canva's intuitive interface and vast library of design assets have enabled students to create visually compelling graphics for diverse purposes, from social media posts to marketing materials. Meanwhile, Tilda's drag-and-drop website builder has simplified the process of building professional-looking websites, allowing students to showcase their design projects with ease. Integrating agile and scrum methodologies into the curriculum has provided students with valuable insights into project management practices. Through iterative development cycles, sprint planning, and daily stand-up meetings, students have learned to manage projects efficiently, adapt to changing requirements, and deliver high-quality results within deadlines. Working in teams, students have collaborated effectively, leveraging each other's strengths and supporting one another to achieve common goals [21].

ChatGPT provide students with fast answers to their queries thanks to its capacity to understand and respond to natural language. This enables students to learn at their own pace and from multiple sources by giving them the freedom to study in their own time [19]. As the potential of AI continues to grow, it is important for educators to continue exploring and developing new ways to integrate AI into their teaching practice [19, 22, 23].

Tools and technologies for digital transformation in education. Digital transformation in education relies on a wide range of tools and technologies. Learning management systems, such as Moodle and Canvas, provide a platform for delivering online courses and managing student progress. Virtual reality and augmented reality technologies can create immersive learning experiences, while artificial intelligence can personalize instruction and provide real-time feedback.

Additionally, video conferencing tools, such as Zoom and Microsoft Teams, enable remote collaboration and virtual classrooms. Online assessment platforms, like Kahoot and Quizlet, make testing more interactive and engaging. These tools and technologies are constantly evolving, and it is essential for educators to stay up to date with the latest advancements to fully harness their potential.

Future trends in transformation in education. The future of transformation in education holds great promise. As technology continues to evolve, we can expect to see further integration of artificial intelligence and machine learning into educational practices. These technologies have the potential to revolutionize personalized learning, adaptive assessments, and intelligent tutoring systems.

Furthermore, the rise of virtual and augmented reality is likely to transform the way we learn and engage with educational content. Immersive experiences and simulations can enhance understanding and retention, making learning more interactive and enjoyable. Additionally, the Internet of Things (IoT) has the potential to create smart learning environments, where physical spaces are seamlessly connected to digital resources and tools.

In **conclusion**, in today's dynamic landscape, proficiency in Business Intelligence, Graphic Design, Teamwork, Project Management, and AI tools is indispensable. Business Intelligence skills enable students to analyze data effectively, make informed decisions, and drive organizational success. Graphic Design proficiency empowers them to communicate ideas visually and creatively, essential in a visually-driven world. Teamwork and Project Management skills cultivate collaboration, leadership, and the ability to execute complex projects efficiently. Additionally, familiarity with AI tools equips students with the capabilities to navigate and leverage emerging technologies, preparing them for careers in fields like automation, machine learning, and data science.

Transformation in education is essential for preparing students for the challenges and opportunities of the digital age. By embracing digital technologies, adopting innovative teaching methods, and fostering a culture of continuous learning, we can revolutionize education and create a more engaging and inclusive learning experience for all. While there are challenges to overcome, the benefits of digital transformation are clear. Let us embrace the power of transformation and unlock the full potential of education. Together, let's create a future where every student has access to quality education and the skills they need to succeed. Start by exploring the tools and technologies available, attending professional development workshops, and advocating for change in your educational institution.

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