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MANAGEMENT OF LEARNING IN ARTS AND DESIGN CREATION BASED ON DIGITAL MEDIA FOR THE MILLENIAL GENERATION

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ABSTRACT
The millennial generation, born and raised during the era of information technology development, has learning the characteristics that tend to be interactive, visual, flexible, and closely tied to the use of digital technology. Millennials are more likely to understand material through media such as graphic elements, videos, or interactive simulations, which allow them to learn both independently and collaboratively in various situations. Additionally, the flexibility of time and place in accessing learning through digital devices is a major advantage that supports their learning patterns. These characteristics demand an innovative, adaptive, and technology-based educational approach to enhance learning motivation and optimize their creative and innovative potential. This study examines the management of learning in arts and design creation based on digital media for the millennial generation. A qualitative approach was used, collecting data through interviews, observations, and documentation, then analyzed descriptively to identify relevant patterns and strategies. This study is expected to contribute to optimizing the potential of the millennial generation and promoting innovation in technology-based education.

KEYWORDS
Learning management, Design, Digital media, Millennial Generation

Introduction

The importance of effective management in educational organizations is increasingly recognized by various sides. If schools and universities are well-managed, they will be more effective in providing quality education to their students. Research on school effectiveness and improvement in several countries indicates that the quality of leadership and management is one of the most crucial variables distinguishing successful schools from unsuccessful ones. These findings demonstrate that management cannot be regarded as a rigid and unchangeable aspect of educational institutions. Good management can make a significant difference in the quality of schools and the education of their students.

On the other hand, the progress of a nation is greatly influenced by the quality of its human resources (HR). The quality of human resources depends on the level of

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education of each individual. Visionary education with a clear mission will produce high-quality outcomes. This highlights the importance of implementing management in education. Educational management is something that must be prioritized for the sustainability of education, ensuring the desired outcomes are achieved.

The success of a school in carrying out its educational functions requires the support of good management. In this era of competition, schools need to develop and progress continuously. Relationships among school personnel must be fostered to create a positive and stimulating work climate and atmosphere. Similarly, the physical and administrative organization or management of the school must be nurtured to create an educational environment that fosters creativity, discipline, and a strong enthusiasm for learning among its students.

In these efforts, whoever is involved—whether they are education practitioners such as school principals, office heads, supervisors, or other leaders related to the administration of education—requires an understanding and mastery of skills in educational management. This understanding and mastery are essential for these educational leaders to have a vision and a strong foundation in carrying out their main duties to ensure the implementation of a quality education system.

Learning management is an essential part of educational management, serving as a process of planning, organizing, implementing, and controlling learning activities to achieve educational goals effectively and efficiently. According to Sagala [1], learning management is a crucial element that focuses on managing teaching and learning activities in the classroom, as well as developing curriculum strategies relevant to students' needs.

In modern learning, learning management not only handles the technical aspects of the teaching and learning process but also ensures the integration of technology to create a learning environment that fosters creativity, collaboration, and 21st-century skills in line with the needs of the millennial generation. Reeves [2] explains that technology can be utilized in two main approaches: learning *from* technology, such as through computer-based instruction or integrated learning systems, and learning *with* technology, which involves using technology as cognitive tools and incorporating it into constructivist learning environments.

Effective learning management based on POAC (Planning, Organizing, Actuating, and Controlling) by George Terry [3] can support technology-based arts and design education for the millennial generation as follows: (1)Planning, integrating technology into the arts and design curriculum, such as developing learning programs that include graphic design techniques, digital art, or animation using modern software. Additionally, setting learning objectives that align with the needs of the millennial generation. (2) Organizing, managing resources by providing design software, digital

platforms, computer labs, or technology-based workspaces. This also includes arranging the roles of teachers or lecturers and students in leveraging technology for collaborative learning. (3) Actuating, implementing interactive approaches in learning, such as technology-based design projects, digital simulations, or online collaboration through learning platforms. Teachers or lecturers act as facilitators, helping students master relevant technological skills. (4) Controlling, ensuring the success of the learning process by evaluating students' work through digital portfolios, technology-based projects, or online presentations. Additionally, providing constructive feedback to improve the quality of learning.

The millennial generation, known as "digital natives," is familiar with technology and more inclined toward experiential and interactive learning. In the context of arts and design, they tend to be responsive to digital media such as animation, video, design software, or AI-based applications. Millennials prefer collaboration and creative exploration through technology and value learning that combines real-world experiences with technological innovation.

The role of technology in arts and design education serves as a crucial tool for connecting the millennial generation with arts and design learning. For example, digital media like Adobe Creative Suite, Canva, or Blender allows millennials to express their creativity digitally. Additionally, online learning platforms such as YouTube, Behance, or Learning Management System (LMS)-based platforms help students independently acquire arts and design skills. Technologies like Augmented Reality (AR) and Virtual Reality (VR) offer immersive art experiences relevant to the modern world.

However, challenges include unequal access to technology among students and the risk of technology diverting focus from fundamental arts and design skills. To address these issues, solutions include creating inclusive and affordable technology-based learning environments and integrating traditional art techniques with modern technology to establish a balanced foundation.

This study aims to identify and analyze the implementation of learning management in art and design creation using digital media, as well as to explore effective strategies to support the development of creativity, collaboration skills, and technological literacy among the millennial generation.

Technology-based arts and design education for millennials must be flexible and innovative, catering to the needs of students accustomed to technology. It should also emphasize collaboration, as millennials prefer working in teams, and focus on practical experiences, such as digital exhibitions or community-based art projects.

Method

This study used a qualitative approach. This approach was chosen to explore how digital media-based learning management is applied in creating arts and design for the millennial generation. The research was conducted in schools and universities that have integrated digital media into their learning processes.

The research subjects include arts and design teachers, lecturers, and millennial students or learners. To gather relevant data, several techniques were used, including interviews, observation, documentation, and literature review. Data analysis was carried out inductively to understand patterns and findings.

Discussion

a) Learning Management Concept in Art and Design

Educational organizations as institutions that are not only physically large but also carry a large and noble mission to educate the nation's life, require professional management to ensure the achievement of educational goals effectively and efficiently. Management is the accomplishing of a predetermined objective through the efforts of other people. Furthermore, according to Stoner [4], management is the process of planning, organizing, leading and controlling the efforts of organizational members and the process of using material resources owned by the organization to achieve predetermined organizational goals.

Learning management, as one of the important aspects of education management, needs to be designed effectively, efficiently and adaptively so that the learning process not only takes place optimally but is also relevant to the needs of students and the times. Mulyasa [5] explained that learning management is the process of planning, implementing, and evaluating learning aimed at achieving effectiveness and efficiency in teaching and learning activities. This includes efforts to create a conducive learning environment and help students achieve learning objectives. Furthermore, he explained strategies to enhance learning effectiveness, such as: (1) implementing active learning approaches to engage students directly; (2) using various learning media to enrich learning experiences; (3) fostering collaboration among teachers, students, and parents to support the learning process; (4) building a learning community that promotes a culture of continuous learning. In the context of modern education, learning management includes various integrated strategic steps, from planning, organizing, and implementing, to evaluating learning activities. This process aims to create a learning environment that supports the achievement of educational goals, both in terms of intellectual development, skills, and character building of students.

Effective learning management can support technology-based art and design learning for millennials, namely: (1) Planning, and integrating technology in the art and design curriculum, such as developing learning programs that include graphic design techniques, digital art, or modern software-based animation. In addition, setting learning objectives that are relevant to the needs of the millennial generation; (2) Organizing, and managing resources, such as providing design software, digital platforms, computer labs, or technology-based workspaces. In addition, organizing the roles of teachers or lecturers, and students in utilizing technology for collaborative learning; (3) Actuating, implementing learning with interactive approaches, such as technology-based design projects, digital simulations, or online collaboration through learning platforms. Teachers or lecturers also act as facilitators in helping students master relevant technology skills; (4) Controlling, ensuring the success of the learning process by evaluating students' work through digital portfolios, technology-based projects, or online presentations. In addition, conducting constructive feedback to improve the quality of learning.

b) Utilization of Digital Media in Arts and Design Education

Various software is now available to apply digital media design, particularly graphic design applications. These software tools are accessible on various internet platforms, both open-source and paid. Design software is intended for different purposes in creating digital media, whether vector or bitmap-based, and for layout purposes.

There are two categories of software for designing digital media: vector-based and bitmap-based. Vector-based design software includes CorelDraw, Adobe Illustrator, Canva, and others, while bitmap-based graphic software includes Photoshop.

Vector-based software like CorelDraw and Adobe Illustrator can be used for a variety of purposes, such as designing banners, posters, logos, and more. These programs provide various tools for the design process. However, each vector-based software has its advantages and disadvantages. Adobe Illustrator, for example, is more complicated to use than CorelDraw, but it integrates features from both CorelDraw and Photoshop. One advantage of Adobe Illustrator is that it has smaller file sizes compared to CorelDraw and Photoshop. AI files are also more flexible because they can be opened in other graphic design software that is either vector or bitmap-based.

An online web-based graphic design computer application that can be utilized in designing digital media today is Canva. Canva can be accessed easily through the website https://www.canva.com/id_id/. The presence of the Canva application since 2013 has been widely utilized by those who do not have a basic as a designer. The Canva application provides hundreds of thousands of templates, icons, and illustrations that can help in designing various digital media, social media content, and even video editing easily and quickly. This application allows anyone to become a graphic designer. Canva

can be used by accessing the desktop web browser or by downloading the app through the App Store and Play Store. Canva has two paid features as Canva premium and unpaid accessible. If using Canva Premium, the app offers more templates. Canva also allows you to import PDF files and each section can be edited easily.

Photoshop is a bitmap-based graphic design application. It is widely used by graphic designers as image processing or photo editing software. This application also provides tools that are not only for editing photos but can be used to design digital media. Photosoph is a graphic design software that is easy to learn. Photoshop has tools such as the magnetic tool, crop tool, healing brush and others that are very easy to use. Just like Canva Photoshop also has paid features with the advantage of various features that can be accessed entirely. Currently this application can be accessed via mobile, with various types of applications such as Photoshop Mix, Photoshop Lightroom, Photoshop Express and Photoshop Skecth.

Adobe indesign in the world of graphic design is often used as a special application for designing layouts such as newspapers, magazines and tabloids. However, this application can also be used to design catalogs, brochures, banners or banners and can even be used for book layouts. InDesign has templates and stock graphic assets that can be used as references in designing. This application can also be used for photo editing. For example, making objects transparent or making image objects look blurry. One uniqueness of this application is that it allows users to collaborate between designers. InDesign also has tools that are integrated with the Cloud so that users can easily and in a short time share sert or fonts.

Due to its function as a specialized layout application, many types of documents can be imported. These include .JPEG, .pdf, .psd, .doc files and the ability to save layout results in various formats.

c) Collaboration Skills and Technology Literacy

Collaboration skills are skills needed in education in this era, where the learning process is oriented towards the ability of students to work together in solving problems found both in learning and social life. According to NEA [6] in Puspitasari [2018: 3769] collaboration skills are very important in classroom activities because they can train learners in achieving learning goals by solving problems together with the group. Learners who are able to collaborate well will produce more knowledge, making students collaborate or cooperate is the key to success in today's social life. According to Greenstein [7] in Redhana [2019: 2241] collaboration skills are skills to work together effectively and show respect for diverse team members that include several individual views, solve problems and find ideas in completing goals, and practice fluency and willingness to make decisions needed to achieve common goals. Key Elements in collaboration skills are (1) Effective Communication: the ability to listen actively,

provide constructive feedback, and convey ideas clearly; (2) Social Awareness: appreciating differences, understanding others' perspectives, and working within cultural diversity; (3) Conflict Management: resolving differences of opinion constructively; (4) Shared Responsibility: all team members share responsibility for work outcomes.

Vygotsky's theory of Zone of Proximal Development (ZPD), collaboration allows a person to utilize the help of others to go beyond their own abilities. According to Anantyarta and Sari [8], collaboration ability has indicators including (1) working productively by using time efficiently in completing tasks with group members; (2) respecting each other's opinions in discussion activities between members; (3) compromising between members flexibly in order to achieve the main goal of solving problems; (4) and shared responsibility and each member contributes by doing their best and following what is assigned in order to achieve the expected goals. It is explained that collaborating with others has indicators including (1) being able to work effectively and respect different team members; (2) showing flexibility and the desire to be a useful person in making compromises to achieve common goals in the learning group; (3) taking responsibility in the collaborative work of each team member in solving the learning problems found.

In today's millennial generation, students' skills are required to be ready to face all challenges and developments. These skills are often termed the 4Cs, namely: Critical Thinking, Collaboration, Communication, and Creativity. In this era, it is felt that many things have changed in various aspects of human life, including education. Where students are required to have the ability to think critically, solve problems, be able to communicate, absorb and filter information well, and the ability to work together in solving existing problems. Referring to this, good learning can be supported by a conducive learning atmosphere, being able to work well together and the communication relationship between educators and students can run well.

Collaborative skills emphasize cooperation between individuals or groups to achieve a common goal. Along with how rapidly creative global industries are developing, this approach is becoming increasingly relevant due to the complexity and dynamics of industries that require collaboration across disciplines, cultures, and technologies. Collaborative learning methods direct learners to work together in groups to complete tasks, solve problems, or create something, as described by Tenrisau [9]. This concept, according to Laal & Ghodsi [10], emphasizes interaction between learners, allowing them to learn from each other, share ideas, and build mutual understanding.

Figure 2. Photo of the Performing Arts presentation titled "Merangkai Nusantara Melalui Seni Wadantara." Result of research under the Consortium Scheme for Superior University Research (KRU-PT). A collaboration of three universities: ISI Denpasar, ISI Yogyakarta, and ISBI Bandung, from 2019 to 2021
[Source: Research Team Documentation, 2020].

Technology-based collaboration assessment utilizes digital tools to evaluate teamwork efficiently and objectively. In the context of teamwork, technology can be used to measure individual contributions, interactions between members, as well as the quality of the final output. Technologies that support assessment (a) Google Workspace, using the revision history feature in Google Docs or Google Sheets to track each member's contribution; (b) Trello/Asana, tracking tasks worked on and completed by team members; (c) Microsoft Teams/Slack, analyzing team communication patterns through message and activity history.

Technological literacy is one of the important aspects that determine success in the competitive era of the creative industry. By understanding and mastering technology, individuals and industry players can optimize creativity, efficiency, and innovation in producing products and services. Technological literacy, which is the ability to use, understand, evaluate and adapt to technology, is the main foundation in dealing with rapid advances in science and technology. Therefore, relevant innovative learning media are needed to support the development of technological literacy among students. The components of technological literacy are (1) Mastery of Digital Tools: operating hardware and software efficiently; (2) Critical Thinking Skills: evaluating the credibility of online information and understanding its context; (3) Problem-solving with Technology: using technology to solve specific tasks or challenges; (4) Digital Ethics

Awareness: understanding copyright, privacy, cybersecurity and the social impact of technology; (5) Importance of Digital Literacy: introduction to the technological skills needed to compete in the era of creative industries

d) Evaluation and Measurement of Learning Success

The success of learning can be measured through an approach that integrates cognitive, affective, and psychomotor aspects within a comprehensive evaluation framework. Learning management serves as the foundation for developing methods, materials, media, and strategies that align with students' needs, the curriculum, and the demands of technology and industry.

Additionally, the implementation of methods such as project-based learning and the use of digital technology are key to creating innovative, collaborative, and student-centered learning experiences. Success parameters include digital portfolios, project-based design works, and performance in collaborative tasks, while evaluation is carried out using project-based assessments supported by technology-driven rubrics.

Conclusion

Learning management for digital media-based arts and design creation for the millennial generation is a strategic effort to integrate technology with the creative process to meet the educational needs relevant to the era's characteristics, potential, and challenges. This approach not only focused on mastering arts and design skills but also included the development of digital competencies, critical thinking, innovation, and collaboration skills in line with the demands of Industry 4.0 and Society 5.0. By effectively utilizing digital media, learning can be designed to be more interactive, flexible, and student-centered, while also providing practical experiences that strengthen creativity, productivity, and adaptability.

The contribution of this learning management goes beyond creating a competent millennial generation in arts and design. It also equips them with the ability to leverage digital technology in making works, entrepreneurship, and contributing to the development of the creative industry. Furthermore, this approach supports strengthening global connections through digital platforms, opens up opportunities for cross-disciplinary collaboration, and prepares millennials to become innovators and future leaders in the ever-evolving world of arts and design.

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