



Implementation of Communication Management in the Learning Process in the Digitalization Era of Class X Science Students of SMK Jambi Medan

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Abstract: The purpose of this paper is to improve the quality and effectiveness of message exchanges that occur in various communication contexts within the learning process. This research was conducted at SMK Jambi Medan with a sample of 39 class X students. Communication management is the process of managing communication resources that are frequently used in everyday life, including in the surrounding environment. The communication context referred to here means the individual, interpersonal, organizational, governmental, and social levels of communication. The positive impact of digital era learning media as an efficiency of communication management technological advances, providing many creative and challenging games that are apparently popular with students. The presence of digital technology does provide many benefits and can streamline communication management because work can be done easily and information becomes faster to access via the internet. However, behind it all, there are a million threats lurking, especially in generation 4.0. They are willing to spend most of their time with gadgets rather than playing in their environment. It is truly a heartbreaking reality, gadgets have become a new life for them. The negative impacts and side effects of using digital technology can include decreased academic achievement due to excessive use, limiting physical activity needed for children's growth and development, hampered development of children's social and language skills due to being introduced to gadgets early (especially at the age of under 2 years), brain development is not optimal due to unbalanced developmental stimulation, eye health problems (screen time should be limited to a maximum of 2 hours per day), concentration problems (intermittently looking at and checking gadgets), sleep problems, the amount of sleep time, and poor quality of sleep (due to the content of the viewing), no privacy, allowing personal data to be taken, child predators, cyber bullying, and others, problems with pornography, violence, or the instillation of negative values.

Keywords: Communication management; Digitalization era; Learning process

Introduction

The rapid development of science is driven by the advent of information and communication technology, which has become a key tool in the world of education. Discussing the world of education in Indonesia today is truly astonishing, as the Indonesian Minister of

Education is not an education practitioner, as is common in Indonesia.

Information and Communication Technology (ICT) must be mastered by education practitioners at all levels, from elementary, secondary, and tertiary levels. The Indonesian government currently does not want any education practitioners who are technologically illiterate, so that the transfer of knowledge to their

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students can be maximized to keep pace with current developments. This will enable the Indonesian nation to further advance its human resources, especially the younger generation, who will continue the baton of the nation's education system. The younger generation must be able to fill themselves with knowledge that can be obtained from anywhere by utilizing ICT, so that information or knowledge can be directly studied, understood, and absorbed for proper use (Anizom, 2023; Yuniastuti et al., 2021; Zakiyyah, 2024).

In the process of utilizing ICT as a means of imparting knowledge and learning media to the younger generation, Generation 4.0, there will be communication management used there. If ICT is not used properly, it can lead the younger generation into undesirable things that are detrimental to themselves, others, and this nation.

Globalization has triggered a paradigm shift in education from conventional face-to-face learning to an open education system. This shift is supported by the role of information technology in education. Current learning processes tend to emphasize content-based, abstract, and limited learning (in this case, teaching tends to be passive).

With the development of ICT science and technology, learning is shifting toward case-based, contextual learning, and not limited to specific groups. In this learning process, students are required to be more active by optimizing available learning resources (Ali, 2013). Communication management is intended to regulate the flow of information received by the younger generation so that it can become an engaging and beneficial learning medium for their lives, thus enabling them to become a superior and useful young generation for the Indonesian nation and state. The strength of a nation lies in the younger generation, now referred to as the successors, but we must not forget the role of the older generation as mentors and directors to ensure the effective management of learning media communications.

Literature Review

Communication Management in the Digital Era

Lawrence A. Appley and Oey Liang Lee in Hikmat (2009), state that management is the art and science of strategy in utilizing the energy and minds of others to carry out activities directed at achieving predetermined goals. Within management, there are techniques rich in aesthetic values of leadership in directing, influencing, supervising, and organizing all components that support each other to achieve the intended goals.

Cangara stated that communication, in its development, is a study of rhetoric and journalism, closely related to the formation of public opinion. Within the scientific landscape, communication is considered by

many to be a monodisciplinary science with roots in political science. However, the rapid development of society, particularly advances in genetics and communication technology, as well as in other fields, has resulted in the increasingly blurred boundaries of authority and function of several disciplines, leading to what was once a monodisciplinary science becoming multidisciplinary.

Likewise, communication science, which was previously said to be a monodisciplinary science, now with the development in the accumulation process within the communication science environment itself and because of the increasing integration between one science and another, finally communication science, which was previously identified with press science as part of political science (monodisciplinary), has experienced development as a science that not only focuses on aspects of power in the fields of politics and government, but communication in a broad sense is increasingly felt to touch all aspects of human life in society, such as in the form of economics, relations between nations, power, organization and planning, information and counseling, as well as in the order of relations between humans themselves (Wilantari, 2019).

Management can be defined as the art of solving a problem or task through people and other media. The elements of management consist of Man, Money, Method, Machine, Materials, and Market, abbreviated as 6 M. Management is needed by all organizations because without it, all efforts will be in vain and achieving goals will be more difficult. Suprpto (2009) mentions three main reasons why management is needed. First, for management to achieve goals, management is needed to achieve organizational and personal goals, second, to maintain balance between conflicting goals. Management is needed to maintain balance between conflicting goals, objectives, and activities of interested parties in the organization, such as owners and employees, as well as creditors, customers, consumers, suppliers, unions, associations, trade, society and government. Third, to achieve efficiency and effectiveness. An organization's performance can be measured in many different ways. One common way is efficiency and effectiveness. Efficiency is the ability to complete a job correctly. It is a calculation of the ratio between output and input. Meanwhile, effectiveness is the ability to choose the right goals or the right equipment to achieve the goals that have been set.

Simply put, communication management is management applied to communication activities. This means that management plays a role or drives communication activities in efforts to achieve communication goals. The principles of management and communication are combined and aligned based on the objectives to be achieved.

The digital era is a term used for the emergence of digital, internet networks, or more specifically information technology (Iskandar et al., 2022; Martynov et al., 2019; Umeozor, 2019; Williams, 2021). The digital era is characterized by the presence of technology, where there is an increase in the speed and flow of knowledge exchange in the economy and society. Parents who are part of the information society cannot deny that children in the digital era are never separated from objects related to technology. New technology is one of the most visible indicators of the emergence of a new era, and also to mark the arrival of the information society. The information technology revolution has caused the spread of communication technology and this is what can inspire the creation of a new society. The definition of the internet (interconnection networking) itself is an open global communication network that connects millions or even billions of computer networks of various types and kinds, using communication types such as telephones, satellites and so on. The internet makes it easy for everyone to obtain/share information and data.

One of the benefits of the internet is that it simplifies and speeds up communication. The increasing development of the internet has made communication between individuals very easy and fast. We can also communicate with people abroad, even at a relatively low cost (Gantiano, 2019).

The development of communication technology is a direct result of societal development. Storage, portability, and accessibility are hallmarks of the concept of mass communication. Rapid changes in communication demand that consumers be more discerning in their choice of communication technology. One example is the internet, a network of thousands of computer networks that send and receive messages worldwide. Its global scale and lack of government control make it very different from other mass media (Budiargo, 2015).

Digitalization has transformed and transformed media and communication technologies. Automatic telephone networks, previously operated manually, can now be operated by computer-intelligent network devices with software capable of configuring intelligent networks with complex digital features. Digitalization is also driving the convergence of products and services an information application process that can perform various audio-visual and computing functions. The convergence of communication products occurs when television and computers become one media production so that internet access can be done from the television set (see Indovision service which provides a computer network with a fairly wide bandwidth or what can be called a broadband channel). Conversely, television broadcasts can be enjoyed via the internet in real time

(Gushevinalti et al., 2020; Haqqu, 2020; Hariyadi, 2023; Mulyadi, 2019; Permana et al., 2019).

What began as a US defense research project has evolved into a global economic engine. The internet's diverse capabilities and potential allow people to connect with each other and fulfill their communication needs almost without limits. The limitations humans once experienced in connecting with each other, such as distance, time, quantity, capacity, speed, and so on, can now be overcome. Accessing the internet no longer requires a computer or laptop. With the rapid development of communication technology, particularly wireless communication, the internet can be accessed using mobile phones, tablet PCs, and even MP4 players like the Apple Inc. iTouch or iPod Touch, which are equipped with internet access. This allows everyone to access a variety of content that can be used as learning media, such as YouTube, Ruang Guru, and others, while walking, eating, or even during lectures (Nugraha et al., 2019). Currently, numerous websites are emerging, both positive and negative. For sites that are positive and beneficial or profitable, it is not a problem for the public to access them. However, if there are sites that are negative and have a negative effect on the public, they require serious attention to prevent them from affecting the nation's future generations.

This cannot be prevented in social communication in cyberspace, but this can be prevented by providing education from an early age regarding ethics in using the internet properly and correctly, especially from family and school circles (Vinet et al., 2011).

Generation 4.0 Learning

In today's digital era, it has become imperative to introduce the younger generation to information media and technology. This situation has us entering a new era in human life, especially in the manufacturing and industrial sectors, namely the fourth industrial revolution, also known as Industry 4.0 (hereinafter abbreviated as RI 4.0). The digital transformation of manufacturing and the use of third-party platform technology have become the identity of RI 4.0. Information technology has become the basis of human life.

Everything is limitless with the use of unlimited computing power and data, because it is influenced by the development of the Internet and massive digital technology as the backbone of human and machine movement and its connectivity. This revolution ultimately changes one's perspective in living a modern and sophisticated life. Klaus Schwab as the founder and chairman of the world economic forum emphasized the above conditions, the entry of the RI 4.0 era is marked by the emergence of supercomputers, robotics, driverless vehicles, genetic editing and the development of

neurotechnology that allows humans to further optimize brain function, artificial intelligence (Artificial intelligence), big data, nanotechnology, quantum computing, all aimed at human welfare (Gazali, 2018). This younger generation is then referred to as Generation 4.0 because they are the next generation to carry the baton of the industrial revolution's development.

The use of learning media and technology for generation 4.0 can facilitate them to hone their creativity and intelligence with the availability of various digital applications that can be downloaded such as Ruang Guru, exam questions, Ruang Belajar, coloring applications, learning to read, and writing letters certainly have a positive impact on children's brain development. Gadgets or tablets with internet connection as a learning tool for generation 4.0 are considered more enjoyable for them so they are more enthusiastic about learning because these kinds of applications are usually equipped with attractive animations, bright colors and cheerful songs.

In addition, their imagination skills are increasingly honed (Ameliola et al., 2016). Generation 4.0, using ICT-based learning media, is expected to possess basic managerial skills to manage themselves so that the learning media is effective. One of the basic managerial skills, according to Katz (2009) namely technical skills, is the ability to use special expertise in carrying out certain tasks such as selecting, processing, presenting messages and being able to use the right media, and expertise in considering the effects that may occur in the communication process.

The presence of digital technology in the form of gadgets has made Generation 4.0 closely connected to this medium. The digital era makes it easy for anyone to access information anytime, anywhere. This applies to everyone, including children. Children of the digital generation adapt very quickly to developments in information technology. Consequently, parents face many challenges in raising and caring for children in this era. Character education cannot be taught theoretically to children; it must be taught through behavior. However, the role of parents is crucial in this regard (Iskandar et al., 2022).

Facts on the ground show the impact of the development of information technology as a learning medium for generation 4.0. The relationship between children and their parents and their surroundings, which should be close, now seems to be distanced by communication products of the 4.0 era. Furthermore, how artificial intelligence gives rise to dehumanization and directs users of these products away from the real world, including away from the warmth of a family relationship. In fact, if this kind of behavior continues for a long time, it is not uncommon for juvenile

delinquency. Therefore, if parents want a better future for their children, communication patterns between parents and children need to be improved (Sampe, 2019).

As a solution to the rapid development of information technology, ethics education plays a crucial role as a foundation for human growth and development. Ethics education can be taught in every aspect of life: within the family, academic environment, and even within the surrounding community. Within the academic environment, ethical values can be taught in every aspect, including within courses (Vinet et al., 2011). This is where effective communication management from all parties is needed so that digital learning media can be used wisely and effectively.

To improve the effectiveness and efficiency of learning, it is necessary to develop various creative and innovative learning models. This is necessary to prevent the learning process from becoming uninteresting, monotonous, and boring, which would hinder the transfer of knowledge. Therefore, the role of digital media in the learning process is crucial because it will make the learning process more varied and less boring. Essentially, the learning process is a communication process, conveying messages from the sender to the recipient, expressed through communication symbols, both verbal (words and writing) and nonverbal. This message will be captured by students as knowledge, skills, and values that can be used in everyday life. For this message to be conveyed effectively, adequate facilities or media are required (Muhson, 2010).

Technology plays a crucial role in the development of information production, consumption, and distribution. The urgency of technology's role in the process of massifying information arises when technological results help transform communication patterns limited by space and time into limitless information communication patterns. Therefore, technology is inherently beneficial, so it is not surprising that there is a shift from traditional mass media to new mass media. Ultimately, new media, within the context of technology and globalization, undergoes such complex changes. Globalization is a crucial factor in the communications media industry and technology (Wuryantai, 2004).

The sophistication and ease of use of technology means that even young children can operate products made possible by this technology. Technology offers ease and variety in the learning process. Technology that allows for simultaneous audio and visual stimuli allows children to learn many things simultaneously (Alia & Irwansyah, 2018).

Changes in communication technology can facilitate knowledge, allowing all information to be obtained within seconds. Therefore, the presence of

information technology can eliminate the role of teachers in schools and universities as transmitters of knowledge. Teachers and lecturers are expected not only to teach but also to educate and humanize humans, transforming people into beings, not mere having. Technology is merely something material, subject to damage, change, and eventually become useless. Therefore, human interaction based solely on technological contact will dry up because it relies on material values that do not involve the heart (Budiargo, 2015).

The positive impact of digital-era learning media is the efficiency of communication management. Technological advances provide many creative and challenging games that are widely loved by children. And this is indirectly very beneficial for children because it greatly influences their level of creativity. Some of the positive impacts of the development of information technology include increasing insight, building relationships, making more friends without being limited by distance and time, making it easier to find and know the latest information, and being able to use educational software technology such as programs for basic knowledge of reading, arithmetic, history, geography, and so on. With the development of technology, educational devices can now be created with entertainment elements related to educational materials, so that generation 4.0 indirectly wants to learn, becoming a solution for parents who face a child who is bored with learning, building children's creativity, technology makes a child much more fluent with technology, especially information technology. The presence of digital technology does provide many benefits and can streamline communication management because work can be done easily and information can be accessed more quickly via the internet. However, behind it all, there are a million threats lurking, especially in generation 4.0. They are willing to spend most of their time with gadgets compared to playing in their environment. It is a heartbreaking reality, gadgets have become a new life for them. The negative impacts and side effects of using digital technology can be a decline in academic achievement due to excessive use, limiting physical activity needed for child development, the development of children's social and language skills that are hampered because they have been introduced to gadgets early (especially under 2 years old), brain development is not optimal due to unbalanced developmental stimulation, eye health problems (screen time should be limited to a maximum of 2 hours per day), concentration problems (intermittently looking at and checking gadgets), sleep problems, the amount of sleep time, and poor sleep quality (due to the content of the viewing), no privacy, allowing personal data collection, child

predators, cyber bullying, and others, problems with pornography, violence, or the instillation of negative values (Alia & Irwansyah, 2018).

Referring to what has been described above, communication management is very necessary in the digital era learning media, communication management in the smallest area can be done by parents to supervise and guide their children so that they can use this digital era learning media wisely so that it is very effective for their children's growth and development. Society and Government also have an important role in controlling the rapid pace of information technology so that the order of communication and information technology in the new digital media era which is a breakthrough in dreaming of the realization of an international media and telecommunications system structure, can take place a balanced flow of communication between countries. The presence of new digital media is felt as an era of communication revolution that will accelerate the flow of information from one part of the world to another (Vinet et al., 2011).

Method

Research Location

This research was conducted in class X of SMK Jambi Medan. The reasons for choosing this location as the author's location for conducting this research are: (1) Considerations from a time efficiency perspective, because this place is close to the author's residence, so that this will make it easier for researchers to conduct research. Therefore, researchers will no longer have to search for other research locations, which would waste time, money, and energy. (2) As far as the author knows, no one has conducted research on the effectiveness of the method. Questions and answers regarding student learning outcomes in the subject of Christian Religious Education for Class VIII of SMP Negeri 1 Pulau Rakyat Asahan for the 2020/2021 academic year.

Population and Sample

Population

In this study, the researcher is guided by Arikunto (2019) that "Population is the entire subject of research". If someone wants to research all the elements in the research area, then the research is population research". From the quote above, it is known that the population is the object of research, so the population in this study is all class X students of SMK Jambi Medan, a total of 132 students.

Sample

According to Arikunto (2019), "A sample is a portion or representative of the population to be studied". If the subject of the study is less than 100

people, it is better to take all of them, so that the research is a population study, then if the population is more than 100 people, 10-15% or 20-25% or more can be taken. Based on the opinion above, because there are 151 students or more than 100 people, the research sample was carried out on 50 students in grades X-1 and X-2.

Research Design

This study involved two classes: one experimental class and one control class, each treated with a question-and-answer method. To determine the learning outcomes of Christian Religious Education, a pre- and post-treatment test was administered.

Types of Research

This research is a type of quantitative research, quantitative research is research that primarily uses a paradigm. post-positivist in developing science (such as thinking about cause and effect, reduction to hypotheses and specific questions, using measurements and observations, and testing theories), using research strategies such as experiments and surveys that require statistical data (Emzir, 2012).

Research Variables

Variables in research are a term that is never left out of any study. Understanding and identifying each variable is essential for any researcher. In this study, there are two variables:

Independent Variable

The independent variable is the variable that influences or causes changes in or the emergence of the dependent variable. In this case, the independent variable is: the question and answer method in learning.

Dependent Variable

The dependent variable is a variable that is influenced or caused by the presence of the independent variable. In this case, the dependent variable is: Implementation of Communication Management in the Learning Process in the Digital Era.

Result and Discussion

In Descriptive Terms

From the results of the interpretation and analysis of the data carried out, that the Implementation of Communication Management in the Learning Process in the Digitalization Era of Science Students of Class X of SMK Jambi Medan is included in the good category, so in this case it is necessary to improve and create things that can build communication towards the learning process by making clear the duties and functions of teachers in the school environment by teachers so that

the expected goals can be achieved. From the results of data analysis and findings in this study, that Implementation of communication management in the learning process in the digitalization era is the process of influencing people to understand and agree on what needs to be done and how to do it effectively, as well as the process of facilitating individual and collective efforts towards a common goal. So by implementing communication management in the learning process in the digital era, teachers can perceive it well, with good relationships can increase comfort and of course can improve Implementation of communication management in the learning process in the digitalization era Thus, teachers are increasingly motivated to do their jobs better.

Inferentially

Inferentially, data analysis and presentation of research results that have been carried out on variable testing learning process in the digital era can be used as a variable to directly or indirectly influence student learning outcomes.

The Question and Answer Method (X) has a Simultaneous and Significant Influence on the Implementation of Communication Management (Y)

From the results of the data analysis that has been carried out, all the findings in this study show that the magnitude implementation of communication management has an impact on the learning process of 0.915, or 91.5%. As a teacher, in carrying out their functions and duties, they must be able to motivate themselves optimally so that they will have the drive to optimize their abilities in carrying out their duties.

Conclusion

Based on the theoretical description and research results obtained, the following conclusions can be drawn: that communication management implementation very effective in in the learning process in the digital era, this matter seen from the data showing $r_{hitung} (0.970) > r_{table} (0.279)$ at a significance level of 5%, or can be formulated as $0.970 > 0.279$. If we look at the interpretation table of "r" product moment $r_{hitung} (0.970)$ is located at the point 0.70-0.90, then it can be said to have strong and high effectiveness or significant effectiveness.

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