

## Learning Media and Technology: Generation Z and Alpha

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### Abstract

The purpose of this article is to analyze the learning media and technology in the Z and Alpha generation teaching and learning activities. This study departs from the author's observation of the current condition of teachers, where educators get a difficulty in teaching students of generation Z and Alpha as described in this article. The problems that found by the author are still very diverse, but it should be noted that there is no room for educators to make excuses and do not use technology as a medium of learning. The method that used is a qualitative research method, the author examines Learning Media and Technology: Generation Z and Alpha. The analysis process carried out by the author is to use a variety of reliable literature and electronic sources to support the author's analysis. The results of this study found that this technology media can uniform the perceptions of student learning, smooth interactive, streamline the teaching and learning process, foster positive attitudes in learning and answer the challenges that exist in the digital era. So by finding the answer to this analysis, the gap between educators and students can be resolved properly.

**Keywords:** *media, technology, educators, generation Z and Alpha*

### INTRODUCTION

This paper seeks to present a study of learning media and technology in generation Z and Alpha. The author observes that media and technology are one of the basic needs in supporting the learning process for generations Z and Alpha. This generation is in the public spotlight, because they grew up in the era of technology (internet) which is currently developing. According to Fadlurrohim's explanation, said that current technological developments greatly affect various existing fields, such as social interactions between individuals and communities (Fadlurrohim *et al.*, 2020).

As a result of this technological development, it has led to a generation that is more modern or contemporary (neoteric) than previous generations. The millennial generation that was once famous has been replaced by the Z and Alpha generations now. Generation Z is the generation which born between 1995-2010, and the Alpha generation is the generation born 2011-2025 (Nugroho 2019). Generation Z and Alpha are "technology literate" generations. In other words, generation Z and Alpha are in the midst of technological developments that are identical to instant instruments (*email, sms, facebook, line, path, instagram, whatsapp, and twitter*) and ignore the monotonous things.

Since this generation is familiar with technology and familiar with gadgets, their tendency is more individualized. This is a big challenge for educators in attracting the attention of students when the teaching and learning process is running. According to Purnomo, et al. Said that this generation has different characteristics from the previous generation. Therefore, the world of education must strive to map the unique profiles of learners and design learning patterns according to their needs, so that there is no gap between the two (Purnomo *et al.*, 2016).

Based on this explanation, one of the efforts that must be made by educators at this time is to have innovation to utilize technology media as a means of learning for students. Referring to the study conducted by Atsani, he explained that media is one of the supports in the learning process. In addition, media can be used to transmit messages from sender to recipient so that it can stimulate students' thoughts, feelings, attention and interests in such a way that the learning process runs well (Atsani, 2020). By using the technology media, it can make easier for educators to teach and invite the participation of students to be involved in teaching and learning activities. With these conditions, Toyyibah responded that the interest in learning from students really depends on a teacher on how the teaching and learning process is carried out. If the learning process is interesting, students will be interested and enthusiastic about learning or vice versa (Toyyibah 2017). With a perspective like this it is clear that when students are enthusiastic about learning, the learning outcomes are definitely more optimal and the objectives of learning can be achieved properly.

However, building a student's intention to learn is not an easy thing. Especially, the students of generation Z and Alpha whose lives associate with technology every day. This is a new challenge for educators in carrying out their duties, because students in the digital era are students who find it difficult to accept rigid and outdated teaching patterns. Moreover, it is dominated by monotonous lectures and intonation, it is not uncommon for students to be busy themselves and even sleepy while studying (Setiawan 2013). Based on these problems, educators are required to improve their teaching methods in mastering technology as a learning medium, with the aim is to prepare students who are able to think critically, constructively and innovatively. This is one of the efforts that educators must make in dealing with generation Z and Alpha students.

As far as the author's observations in several studies that have been done before, such as in Rastati's writing "Media literacy for digital natives: The perspective of generation Z in Jakarta" explains that this generation Z prefers instant culture and is less sensitive to the essence of the private because it constantly uploads its life in the social media, so it needs media literacy and the right information to be given to this Z generation (Rastati, 2018). Furthermore, in Fadlurrohim's writing "Understanding the Development of Alpha Generation Children in the Industrial Age 4.0" said that the Alpha Generation is most familiar with digital technology and the generation that is claimed to be the smartest compared to the previous generation. Furthermore, the alpha generation will be the most educated generation because they have more opportunities get an education in the present era; familiar with technology (Fadlurrohim *et al.*, 2020).

However, the study above does not highlight the problems and realities faced by real educators when teaching generations Z and Alpha, where there are still educators who do not use technology media optimally for various reasons, namely First, the use of technology media is considered to be a troublesome thing; Second, the use of sophisticated media is a waste; Third, the unavailability of instructional technology media in schools is still lacking; Fourth, the level of educators' mastery of

technology media is still low; Fifth, accustomed to enjoying lectures: Sixth, lack of appreciation from superiors. The same thing was expressed by Sahelatua that there are several obstacles faced by educators or teachers in utilizing technological media, namely: not being able to use computers and not being able to use Power Point as a learning medium and being unable to utilize the internet properly (Sahelatua, 2018). This is proven from the research that conducted by Hani Ayu Rahmatiah and Nur Asiyah claim that according to a survey from *Pusat Teknologi Informasi dan Komunikasi (Pustekkom), Kementrian Pendidikan dan Kebudayaan (Kemendikbud)* stated that at this time only 40% of teachers are ready with technology, and 60% of them are not ready for the changing times which are very rapid (Rahmatiah & Asiyah 2019:309).

By seeing the various reasons above, in opinion of the authors that thing does not need to happen because technology media in learning is a necessity that must be used by educators or teachers. Because here lies the competence of a teacher as the main determinant of the success of the learning process (Wahyono *et al.*, 2020). In addition, according to Mulyasa, competence is a combination of personnel, scientific, technological, social and spiritual abilities that form the standard competencies of the teacher profession, which can be applied in teaching and educating, resulting in changes in learning behavior of students (Mulyasa E, 2013).

That is why, the authors review this paper to uncover various problems faced by educators in preparing technology media in the era of generation Z and Alpha, because in dealing with situations like this, professionalism and high dedication from educators are needed as a form of real contribution in answering challenges. But this will never happen, if there is no improvement in the quality of educators (teachers). The need for higher quality teachers today must be responded positively by education managers (Oviyanti, 2013). In other words, the quality of educators have a very positive impact, especially in mastery of media technology as an urgent need in generations Z and Alpha.

Thus, the presence of technology media greatly supports the teaching and learning process, helping educators explain difficult things to explain. Educators do not need to be allergic to the use of technology as a learning medium. The use of learning media should receive special attention for educators in today's digital era. Because, nowadays the development of information technology and entertainment grow so fast, so children prefer to watch drama, films, play games, the internet which will become their teachers rather than listening to the lessons of teachers in class (Nurseto, 2012). This is the reason why this paper exists, because there is no more reason for educators in the digital era not to create interesting learning media. Because technology media has become an important reference in improving the quality of education in various existing institutions at this time. Thus, learning media and technology should be given the widest possible space in the implementation of the learning process in schools, so that it is no less important than information technology out there (the world of entertainment), so that generation Z and Alpha students can experience the benefits of technology media and the goals of learning can be achieved well.

## **METHODS**

The method that used by the author is a qualitative research method with data sources in the form of the natural environment (Sugioyono, 2004). As the main source in written review is literature. The author analyzes data by multiplying information, looking for links to various sources, comparing, and finding results based on actual data (not in the form of numbers). In this paper, the authors examine Learning Media and Technology: Generation Z and Alpha. The analysis process carried out by the author is to use a variety of reliable literature and electronic sources to support the author's analysis.

## **RESULT AND DISCUSSION**

### **The Nature of Learning Media and Technology**

In this study, the authors highlight learning media and technology. Media and technology are included in the scope of learning technology. The media and learning technology in this study are highlighted from an educational point of view. Media really helps educators or teachers, especially students, to accept and understand the material presented easily. This means that the media in an educational perspective is a very strategic instrument in determining the success of the teaching and learning process. This can happen because of its existence can directly provide its own dynamics to students. Because the use of media in the teaching and learning process can generate new desires and interests, generate motivation and stimulation of learning activities, and even bring psychological influences on students. The use of instructional media at the learning orientation phase will greatly assist the effectiveness of the learning process and the delivery of messages and the content of the lesson at that time.

Based on the terminology, the word media comes from Latin, which is the plural form of "medium" which literally means intermediary or introduction (Sumiharsono *et al.*, 2017). The intermediary or introduction in question refers to something that can connect the source and recipient of information (Yaumi, 2019). In Arabic, media comes from the word "wasaaila" which means an introduction to a message from the sender to the recipient of the message (Mahnun, 2012). Furthermore, Mohamad Muspawi and Maryono define media as an intermediary or messenger of messages from sender to message recipient. This is in line with what was stated by the Association for Education and Communication Technology (AECT) which translates the meaning of the word media as all forms and channels used for information processing (Kusiawan, 2016). The National Education

Association (NEA) defines media as all objects that can be manipulated, seen, heard, read or discussed along with the instruments used for these activities (Nurseto, 2012).

Whereas technology according to Padmini (in Kandung, 2014) is a study and practice to help the learning process and improve performance by creating, using, and managing adequate processes and technology sources (Padmini, 2015:60). Technology is a scientific method for achieving the practical goals of applied science. Technology can also mean the whole means of providing the items which needed for the continuity and comfort of human life, while technology has a very important role for education. Educational technology views as a problem that must be faced rationally by applying problem-solving methods. This means that technology encourages learning, and to illustrate the focus on the use of technology in pedagogy in the learning environment and seeks to present well-prepared learning. In a narrow sense, educational technology is educational media, namely technology that is used as a tool in education to make it more effective, efficient and expeditious. So by using technology media in learning or also called media learning in the teaching and learning process can generate new desires and interests for students, such as: (1) providing knowledge of learning objectives. (2) motivate students. (3) present information. (4) stimulate discussion. (5) directing student activities (6) carrying out exercises and tests. (7) reinforces learning (8) provides a simulation experience.

Based on the description above, the instructional media are various types of tools used to convey messages in the teaching and learning process. This is in line with what was stated by Richad E. Mayer, who stated that Multimedia instruction is one of the current examples of a new area of instructional research and practice that has generated a considerable amount of excitement. (*Media pembelajaran adalah salah satu contoh terkini dari area baru penelitian dan praktik pengajaran yang telah menghasilkan banyak kegembiraan*) (Mayer, 2015). Not only explaining it as a tool used in teaching and learning practices, Richad further wants to show that the use of instructional technology media can arouse students' enthusiasm for learning.

This learning media is integrated into the entire learning system and process, it means that learning media is a very important and decisive element of learning activities (Saurina, 2016) However, one thing that needs to be remembered and noticed is that learning media will not be effective if their uses are not in line with the content and the goal of learning that have been formulated. However, there is something that needs attention in this context, that any sophistication of technological media cannot be said to support learning if its existence deviates from the content and objectives of learning (Saurina, 2016). Therefore, it is necessary to review the requirements of a media that can be said to be a good learning media. According to (Simamora, 2018). Not only explaining it as a tool used in teaching and learning

practices, Richad further wants to show that the use of instructional technology media can arouse students' enthusiasm for learning.

In addition, it is necessary to recognize the types of technological media that used in the learning process. In the previous section it has been explained that instructional technology media are all kinds of tools that used in the teaching and learning process. According to Raymond H. Simamora, learning media is divided into two kind, namely software (*perangkat lunak*) and hardware (*perangkat keras*). Both of them aim to increase the effectiveness of teaching and learning (Simamora, 2018). While Tejo Nurseto analyzed the learning media according to the form of information used, classified them into five major groups, namely silent visual media, motion visual media, audio media, silent audio-visual media, and motion audio-visual media (Nurseto, 2012).

Based on its category, Bretz identified the main characteristics of media into three main elements, namely sound, visual and motion. Meanwhile, Paul and David distinguished them into six categories, namely projected media, non-projected media, audio media, film and video media, multimedia and communication-based media (Muhson 2010). Starting from the explanation above, it can be concluded that, learning media is divided into two, namely those that can be felt, and those that cannot be felt. Meanwhile, based on its function, learning media can be classified as silent visual media, motion visual media, audio media, silent audio visual media, and motion audio visual media.

### **The Role of Media Technology in Teaching and Learning Process in generation Z and Alpha**

Based on the previous explanation, in this section the authors describe the role of technology media in the teaching and learning process in generation Z and Alpha. This generation has been raised in an era where the internet is starting to emerge and develop. Therefore, it is necessary to understand how to carry out the real learning process. Because students in generation Z always demand improvements in technology, such as social systems and social interactions and prefer learning methods by experimenting or practicing rather than sitting in class and listening to teacher lectures. Meanwhile, Alpha generation students (the generation who are familiar with technology before birth) have the ability to carry out multiple tasks or more than one activity at the same time (multitasking). However, it is necessary to know that the alpha generation is not born different from millennial or generation Z, but the personality, motivation and appearance shown will color them as an inseparable part (Fadlurrohman, 2020).

Based on this, it is necessary to adjust the learning process carried out for these two generations, especially regarding the use of technology media. Since 1930, various studies have found that the role of technology media is very important in learning needs (Sutjiono, 2005). In addition, technological developments greatly affect the characteristics and perspectives of students at school. Therefore, technology media is a means in the process of implementing learning and building positive perceptions so that students do not fall into wrong thoughts about what is experienced every day. With

this explanation, there are several roles of technology media in the learning process in generation Z and Alpha, namely:

*First*, technological media can uniform the perceptions of students in the classroom. Abstract learning material for students often makes each student have a different concept, because this perception has an important role in the development of children's thinking, because it is related to the messages or information that get into the human's brain, through human perception continuously makes contact with their environment, and this relationship is carried out through their senses, namely the senses of sight, listener, touch, and taste. For preventing misperceptions in the learning process, multimedia is present in education to equalize the perceptions of students. Therefore learning media has a role in making abstract subject matter more concrete, so that it can uniform the concept of certain subject matter for each learner. The diverse perceptions of students can be uniformed with the help of learning media. According to Nurrita's opinion, learning technology media is an important element in the learning process, because through technology media it can help teachers enrich students' insights (Nurrita 2018). Furthermore, according to Normalasarie's opinion, the advantages of technology media can increase students' understanding in learning, so that students are more innovative and increase motivation during the teaching and learning process, for example when the teacher explains the learning material, the students listen to the explanation until they really understand. material presented by the teacher (Normalasarie, 2016). So that the goals or intentions of educators can be conveyed and information gaps between learners can be avoided. If this is the concern of the teachers, the learning process has been carried out optimally (Erti, 2020).

*Second*, technology media can facilitate interactive between educators and students. The task of educators in teaching generation Z and Alfa students is quite challenging, because they are dealing with students who are familiar with information technology. So that this gap does not occur, an educator must avoid one-way communication to students, because the tendency to speak in one direction will create a less attractive and boring condition. For that we need media as a means of creating pleasant learning conditions. Learning media has various potentials that can display information through sound, images, movement and color, both naturally and manipulation. Not only that, according to Miarso, technological media can be used to increase the ability of educators in presenting messages (Miarso, 2004: 133). The subject matter which is packaged through the media program will be clearer, more complete, and will attract students' interest. Furthermore, by using various media such as audio, video, sound slides, and others, it is possible for everyone to study anywhere and anytime. Using the media in the teaching and learning process will be more well planned because the media is considered an integral part of the teaching and learning system. Furthermore, according to Normalasarie, through media students can see, hear, and even carry out

learning interactions, thus the involvement of students' senses in using multimedia as a learning media is more than other media such as text. The use of multimedia in learning can be said to be effective, this can be seen from the enthusiasm of students when participating in teaching and learning activities (Normalasarie, 2016). With the media, presentation material can arouse students' curiosity and stimulate learners to react both physically and emotionally. Thus, the learning atmosphere becomes more lively, not monotonous, and not boring. This means that educators who teach generation Z and Alpha students are required to be creative, able to accept change, and be able to adapt to technological advances by understanding learning methods and how students think so that a harmonious relationship is created between teachers and students.

*Third*, media technology can streamline the teaching and learning process effectively and efficiently. The complaint that has often been heard from educators is the lack of time to achieve learning targets. This should not happen if teachers can use of the media maximally. For example, without the media a learner will spend a lot of time explaining the human circulatory system or the process of a solar eclipse. Even though with the help of visual media, this topic is quickly and easily explained to students with the help of the media.

The use of media not only makes the learning process more efficient, but also helps learners absorb the subject matter more deeply and completely. If only by listening to verbal information from educators, learners may not understand the lesson well. But if it is enriched by seeing, listening, or experiencing it through the media, then the students' understanding will definitely be better (Sutjiono, 2005). In addition, with the presence of technology media, learning is more varied and diverse, making it easier for students (Tafonao, 2020) to capture the teaching material delivered by educators in class, so that learning objectives are more easily achieved, both over time and preparation. Thus, the use of technology as a learning media is very effective and efficient because it can make it easier for a teacher to obtain or convey information (messages or content, material) lessons, can help increase students' understanding, present data / information more interesting or reliable. Sapriyah even added that learning media is one of the learning resources that can transmit messages to help overcome various problems that occur in learning (Sapriyah, 2019).

*Fourth*, technology media can foster positive attitudes in learning. It is necessary to realize that the allocation of learning time in schools is very limited, the most time is spent by learners outside the school environment. Therefore, by using the learning media that has been designed in such a way that students can carry out learning activities more freely, whenever and wherever, without depending on the presence of an educator. Audio visual learning programs, including learning programs using the internet, allow students to carry out learning activities independently, without being bound by time and place. This means that through the media, technology can encourage students to love science and like to find sources of knowledge on their own. The use of media will make students aware of how many learning resources they can use in learning. The ability of students

to learn from these various sources will be able to instill the attitude to always take the initiative to find the various learning resources needed. In addition, according to Thaeb, there are several characteristics of students who have a positive attitude in learning, namely: having a willingness to learn on their own and paying full attention when learning is running (Thaeb, 2016). Aswar explained that students who have a positive or negative attitude always occur in learning, and in fact, negative attitudes are more dominant than positive attitudes. This happens because the learning that provided by educators is less attractive, so that educators are less able to foster a positive attitude for each student. If educators can fully actualize their role in the learning process, then undoubtedly the positive attitude of students will become more dominant in circles (Aswar, 2017).

By utilizing technology media properly, teaching generation Z and Alpha is actually not a serious problem but it depends on educators how to use super sophisticated technological media to become a learning resource for students. Not only that, the media is very useful for the purpose of instruction where the information contained in the media must involve students in real activities so that learning can occur. The material must be designed more systematically and psychologically in terms of learning principles in order to prepare effective instruction. Besides being fun, learning media must be able to provide a pleasant experience and meet the needs of students personally (Sapriyah, 2019). Therefore, there is no reason for educators today not to use every existing media. So thus, educators must have a lot of time to pay attention to these aspects, because this can increase students' motivation to learn.

*Fifth*, technology media can answer the challenges that exist in the digital era. The use of instructional technology media must be in accordance with the demands and needs of the market, so that the graduates produced can keep up with the times. Educational institutions should design learning by studying and understanding the development of information and communication technology today. It often happens, educators at educational institutions lose fast with the swift flow of technological advances (Yaumi, 2019). That things effect the resulting alumni not being able to compete with the job market which resulted in more unemployment.

Entering the 21<sup>st</sup> century today, various traditional education models that rely on face to face meetings show a great shift, where online education has brought about a challenging change impact. Facebook, Twitter, blogs, youtube, and various school game facilities have become a new tradition in the world of school age children today. Therefore, the latest technology must be designed so that it is easy for teachers, teachers' knowledge and skills must always be improved, and various learning facilities by utilizing various sources must always be available to avoid low public confidence in the education services provided in schools.

By paying attention to this, with the times that are getting faster every day, educators have been given space to take advantage of technological sophistication as a place to access the needs of

generation Z and Alpha students, so that the dynamics of learning in the digital era can be resolved through technological media. However, according to Fajar, the use of media needs to be chosen based on its use and function, because this greatly affects the teaching and learning process carried out by teachers in the classroom (Fajar, 2020).

## CONCLUSION

Based on the study in this paper, the author sees that the need to master technological media is a necessity for educators in this era. This means that technological development is no longer a mere threat to educators as previously stated, but technological development is a good opportunity to develop technological media as a means of learning. After the authors conducted this study, the authors found that the real issue was not in the development of technology but the main problem was that the educators had not been technologists or had sufficient technological background, so it was not surprising that educators had the same grievances in dealing with and teaching Generation Z and Alpha students. Because generations Z and Alpha have a learning pattern that always dominates their activities with technology.

The criticism is that educators should be able to increase their love in mastering technological literacy by leaving behind a culture that is always reasoned, namely "there is no time to learn". But as an educator who has a patriotic attitude, he has no other reason not to learn as a form of upgrading himself in order to be accountable for his professionalism as an educator or teacher in dealing with generation Z and Alpha educators.

This paper can be a contribution to educators or teachers in improving the quality of teaching based on technology media in order to advance education in this digital era so that analytical studies of technological media can be useful and become a reference for future researchers.

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