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Perceptions and Attitudes of Biology Teacher's Candidate Towards the Potential of Tiktok as a Means of Edutainment in Learning Biology

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Abstract TikTok is a platform for short video destinations from China, which was launched in early September 2016. TikTok applications not only provide entertaining short video and content but also TikTok contents can be used in education. Tiktok shows a very large potential in providing information. The purpose of this research was to learn the perception of biology teacher's candidate for the use of TikTok as potential edutainment in the learning and attitudes of biology teacher's candidate for the used of TikTok in the learning biology. The method in this research was qualitative and quantitative (mix method). The samples used was students in FTIK UIN KHAS Jember Study Program Biology Education for the 2020-2021 academic year even semester 2022/2023, which was 30 students. The instrument used was form of a questionnaire distributed using google form containing 14 questions. The result showed that respondent's response that the perception of biology teacher's candidate for the used of TikTok as as a Biology learning medium was 74.26%, the response to the used of TikTok as potential edutainment in the biology learning was 72.16% and the teacher's attitude to the used of TikTok in Biology learning was 62.66%. And the used of TikTok was also potential to increase motivation, interaction and creativity in biology learning.

Keyword: Biology learning, Biology teacher's candidate, Perception, TikTok

INTRODUCTION

These adults are progressing very fast in technology, so they don't allowing someone to follow the whole development process. Development technology doesn't go on in the short term, but actually has started hundreds of thousands of years ago. Technology development is essentially aimed to make it easier for all human activities. With the existence of increasingly sophisticated and modern communication tools, several groups of people from several countries can interact easily (Poedjiadi, 2005).

21st century learning is learning that in its implementation utilizes advances in Information and Communication Technology (ICT) to prepare the 21st century generation. Technological advances have a very rapid influence on learning. The impact of ICT on learning requires students and teachers to be technologically literate in order to be competent in using technology. According to Ontario's (in Yulianti and Wulandari, 2021) states that technology has a role in society and also classes that can be used as a tool in indepth and more detailed learning activities. Based on this opinion, 21st century learning refers to teachers and educators to take good technology because 21st century learning requires students to achieve skills that must be fulfilled 4C stands for *Critical Thinking*, *Collaboration*, *Communication*, and *Creativity* (Arnyana, 2019 in Oktafiani and Haryanto, 2022). These four skills lead to a learning and the teacher is only a facilitator. To be the right facilitator, the teacher must have knowledge in choosing learning media. Learning media must be interesting and fun in order to motivate students to continue learning (Oktafiani and Haryanto, 2022).

In general, conditions in the field indicate that learning is a process of transferring information from teacher to student. This is what often causes student learning competence not to be achieved, because the information obtained is not optimal (Harahap et al., 2020), because it does not utilize the right learning media. Ibrahim and Syaodih in Tarigan (2013) in Hutamy et al. (2021) say that learning media is anything that can be used to channel messages or lesson content, stimulate thoughts, feelings, attention and abilities of students, so that can encourage the teaching and learning process. In line with the opinion of Gagne and Briggs in Tarigan (2013) in Hutamy et al. (2021) which states that implicitly says that learning media includes tools that are physically used to convey the contents of teaching material, which consists of books , tape-recorders, cassettes, video cameras, films, slides, photos, pictures, graphics, and computers. With In other words, media is an intermediary used to convey messages or information which can stimulate students to learn. According to John M. Lennon in Kusuma & Astuti (2019) in Hutamy et al. (2021) learning media has a very important role, because this media can arouse student motivation, increase student understanding, provide data strong or reliable, condense information and make it easier to interpret data (Hutamy et al., 2021).

TikTok is a platform for short video destinations from China, which was launched in early September 2016. This application has received a lot of attention from the public because it is the most downloaded application. Based on research data by

Bohang (2018), it shows that during the first quarter (Q1) of 2018, TikTok was the most downloaded application, namely 45.8 million times. This number beat other popular applications, such as YouTube, WhatsApp, Facebook and Instagram. Around 10 million active users of the TikTok application in Indonesia, the majority are school-age millennials or commonly known as generation Z (Firamadhina and Krisnani, 2020). Previous research stated that the use of audio-visual learning media is better than just image media (Afriza & Nasution, 2022), Tiktok is an audio-visual media that has the potential to be used in learning.

The TikTok application not only provide entertainment videos or content that is not useful, but the existence of TikTok educational content shows that TikTok has enormous potential in conveying information to the public. There is great potential in the TikTok application that should be utilized as well as possible so that social media can be used according to their needs. This has been done by some TikTok users in terms of creating educational content. Some examples of local accounts that create educational content on TikTok include the accounts *@belajarbahasaindonesia, @vmuliana, @nasionp, @antoni_ans, @peppo.ran, @iyaiyayas* which discusses education in various fields such as language, literature, education, history, and each others. Based on the background above, this study aims to determine the perceptions of prospective biology teachers on the use of TikTok in biology learning, tiktok as edutainment in learning and attitudes of prospective biology teachers towards the use of tiktok in biology learning (Oktafiani and Haryanto, 2022).

METHOD

The method in this research is qualitative and quantitative method (mix method). Quantitative research emphasizes objective phenomena and is studied quantitatively. According to Siyoto & Sodik (2015: 11) maximizing the objectivity of quantitative research designs is carried out using numbers, statistic processing, structures and controlled experiments. Qualitative research emphasizes that reality has multiple dimensions, interactive and an exchange of social experiences that are interpreted by individuals. Qualitative research is aimed at understanding social phenomena from the perspective of participants (Siyoto and Sodik, 2015:11). The combination of quantitative and qualitative data in mixed method research provides a stronger understanding of the problem or research question. The combination of quantitative and qualitative data provides a broad picture of the existing problems. Mixed research methods are used to collect data empirically, a survey approach is used to get an overall picture (Utami and Kurniasiih, 2022: 122).

The population used is FTIK UIN KHAS Jember students. The sampling technique using purposive sampling. According to Arifin (2014: 221) purposive sampling is a method of sampling based on certain considerations and objectives and certain characteristics or characteristics that have been previously known. Then the sample used was 30 people. The research instrument used a questionnaire adapted from the research questionnaire by Utami and Kurniasiih

(2017). Questionnaires are a technique or way of collecting data indirectly (researchers don't directly ask and answer questions with respondents). The questionnaires are divided into three main parts, namely the perceptions of prospective biology teachers on the use of TikTok in biology learning, tiktok as edutainment in learning and attitudes of prospective biology teachers in using TikTok, and filling-in questions. After being validated, the questionnaire was distributed in a Google form containing 14 questions. According to Sugiyono (2017:94), researchusing a closed questionnaire or questionnaire can be formulated in five answers with different value weights, which are as.

Table 1. Respondents rating score

Alternative answers	Value weight
Very agree	5
Agree	4
Immeditely agree	3
Disagree	2
Very disagree	1

The score interpretation criteria based on intervals are provided in Table 2.

Table 2. Data on the percentage of score interpretation criteria

No	Score	Criteria
1	0% - 19%	Very disagree
2	20% - 39%	Diagree
3	39% - 59%	Immeditely agree
4	60% - 79%	Agree
5	80% - 100%	Very agree

The collected data were then analyzed using quantitative analysis. Quantitative data were analyzed using SPSS. Qualitative data were analyzed to corroborate and supporting the results of the quantitative analysis.

FINDINGS AND DISCUSSION

Those are the responses of respondents regarding the perceptions of prospective biology teachers regarding the potential of tiktok as a means of edutainment in learning biology based on respondents' answers using the above formula:

$$\%\ \text{actual score} = \frac{\text{actual score}}{\text{ideal score}} \times 100\%$$

Description:

- The actual score is the answer score obtained from all respondents for the observations that have been made.
- The ideal score is the maximum score or the highest possible score if all respondents choose the highest score answer (5×30 = 150).

Table 3. Perception of biology teacher's candidate on the use of tiktok in biology learning

No	Question	1	2	3	4	5	Actual Score	Ideal Score	%
1	TikTok is easier to accessed than other learning platforms	0	4	7	11	8	113	150	75,33%
2	Can to made a post and upload a videos in TikTok	0	3	4	13	10	120	150	80%
3	Feature of TikTok story can used in biology learning	0	4	6	16	4	110	150	73,33%
4	Feature of TikTok post feedcan used in biology learning	0	1	8	16	5	115	150	76,66%
5	Feature of TikTok live streaming can used in biology learning	0	4	11	12	2	99	150	66%
Average							111,4	150	74,26%

Table 4. Perception of biology teacher's candidate the potential tiktok as s means of edutainment in biology learning

No	Question	1	2	3	4	5	Actual Score	Ideal Score	%
1	Used TikTok in online biology learning is potential to increase student motivation	0	4	11	11	4	105	150	70%
2	Used TikTok in online biology learning is potential to increase student interaction	2	6	10	10	2	94	150	62,66%
3	Used TikTok in online biology learning is potential to increase creativity of student	0	2	8	10	10	118	150	78,66%
4	Used TikTok in online biology learning is potential to funning student	0	2	8	12	8	116	150	77,33%
Average							108,25	150	72,16%

Table 5. Attidutes of biology teacher's candidate on the use of tiktok dalam pembelajaran biologi

No	Question	1	2	3	4	5	Actual Score	Ideal Score	%
1	TikTok is a part of my daily activity	2	3	4	10	11	115	150	76,66%
2	I proud to tell people if I used a TikTok	6	6	7	8	3	98	150	65,33%
3	I feel left out if I don't open TikTok in a day	5	4	7	11	3	93	150	62%
4	I prefer to used TikTok for online learning rather than offline learning	10	7	6	7	0	63	150	42%
5	I like to used TikTok in biology learning	1	5	8	14	2	101	150	67,33%
Average							94	150	62,66%

One application that has the potential to be used in biology learning activities is TikTok. TikTok is an application that provides special effects that are unique, interesting and can be used by users of this application to easily create cool short videos that can attract the attention of many people who see them (Armylia, et.al, 2021). TikTok, which was previously known as an application that only contained entertainment content, has now started filtering out this content with many content creators starting to take advantage of TikTok by displaying educational content. TikTok is considered to be the right place to express creativity in the form of video that TikTok has the potential to be used in learning activities.

The survey results that have been conducted state that prospective teachers agree about the perception of using TikTok in biology learning. This is evidenced by the average results of the questionnaire obtaining an acquisition of 74.26%. Prospective biology teachers think that TikTok is easily accessible to students along with the features in it. The use of TikTok as an edutainment tool is certainly in great demand by students. Seeing the current condition that most people including students use TikTok as one of the trending needs, a teacher candidate is expected to be more creative in innovating in developing edutainment facilities (Sinambela, et.al, 2022). With enthusiasm the students inusing TikTok, teachers can use it to make TikTok a new method of learning. Teachers can share and explain material via video, teachers can also conduct live streaming lessons which can also be accessed easily by students.

The biology candidate are also agree with the potential of TikTok as a means of edutainment in Biology learning. The average obtained from the results of the questionnaire was 72.16%. Through the TikTok application, it can be used as an edutainment tool that can development new desires and interests, increase motivation, develop creativity, and stimulate learning activities. TikTok has complete features that can be used as a means of edutainment including voice recording features, video recording, background sound, filter options for users, can be shared easily, can be downloaded, and can also be used to collaborate with other students. In order to be able to use Tiktok as a learning medium, teachers must be able to package it according to the learning objectives and student learning styles (Harahap & Nasution, 2022).

By using TikTok in learning can provide benefits to both students and the teacher itself. Delivering material that students find difficult to understand will be easier to understand when using TikTok because students prefer to see things in the form of video displays. Apart from that, it can also be used as a medium for making assignments using the TikTok application by students . Students will be asked to create content on the TikTok application in accordance with the competencies and teaching materials determined by the teacher. Making this content will bring out the creativity of students in presenting a material more fun, so that students will think about howmake the content as interesting as possible but content and meaning well-spoken.

Utilization of the TikTok application in biology learning activities gets various kinds of different reactions from prospective biology teachers. Survey results

shows that the average attitude of prospective biology teachers agrees with the use of TikTok in learning biology by 62.66%. TikTok has become a daily part students' day so of course they are no strangers and have difficulties with TikTok used in biology learning. Prospective teachers argue about the existence of TikTok quite helpful in illustrating the subject matter and facilitate in giving assignments to students. In addition, there are also prospective teachers who show a disapproving attitude towards the use of TikTok in learning biology. According to them the implementation of biology learning by using TikTok is not effective enough, especially for biology lessons that do a lot practicum activities. Understanding or comprehension of different students makes the problem quite complicated for prospective teachers if done with using TikTok. For that they prefer face to face directly because it will make it easier for students and teachers to interact with each other effectively. Prospective teachers can use the TikTok application as a means edutainment but not fully learning to use TikTok. Objective from using the TikTok app as a means of edutainment only delivers learning material that is packaged in the form of entertainment so it doesn't make students are bored in receiving learning material. So that needs to be thought about back by an aspiring teacher about using TikTok as a tool edutainment both in terms of the material that needs to be prepared and the concept of the video to be made.

There is an advantage of interactivity on Tiktok which, if used properly, can make TikTok a good learning medium, as interactive multimedia in the research of Hasanah et al (2022) which states that it can improve student learning outcomes. Many studies state that various biology materials require the availability of learning media (Sofyan & Nasution, 2022). Tiktok is one of the potential learning media that can be used in biology learning.

There are many solutions and innovations that can be used as a means of edutainment in biology lessons. It's just how prospective teachers try to do what they can to share the knowledge they have acquired. To improve their digital technology skills, prospective teachers can take part in training, seminars, and digital learning workshops that are widely held or you can hold seminars with the theme of quality teachers with science and technology knowledge towards the 5.0 era. With this activity or training, prospective teachers can add to their technological insights so that they can exceed the insights of their students (Adisantoso, et.al, 2021).

CONCLUSION

Based on the results of the research and discussion, it can be concluded that prospective biology teachers have a very positive perception of TikTok in biology learning, namely 74.26%. Respondents agreed that TikTok is easier to use than other learning platforms to create and upload learning content. Perceptions of prospective biology teachers regarding TikTok's potential as an edutainment tool also agree, namely by achieving a score of 72.16%. And the attitude of prospective biology teachers also shows that they agree to use TikTok in learning

biology, which is 62.66%. In addition, the use of TikTok also has the potential to increase motivation, interaction, andcreativity in learning biology. In addition, it is important to carry out further research to find out how to design Tiktok learning media so that it is able to improve 21st century skills such as critical thinking skills and creative thinking. Which skills affect student learning outcomes (Nasution et al., 2023).

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