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E-comics: Pictorial Learning Media to Train Students' Viewing Skills

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ABSTRACT

Background. Nowadays, education requires ways to improve the quality of students. In improving and developing the quality of students, teachers must innovate in making learning media, one of which is learning media in the form of e-comic media.

Purpose. this is to find out how the benefits of e-comics in learning.

Method. using quantitative methods, data obtained through interviews and distributing questionnaires to students by utilizing the google form.

Results. explained that learning media using e-comics can improve student learning outcomes. From the results of the interviews, it was obtained that these students felt an attraction and were motivated in learning by using e-comics. Students feel that learning by using e-comic media, grades and learning outcomes are increasing. e-comics is also one of the learning media that is easily understood by students.

Conclusion. explained that this e-comic learning media really helps teachers to see students' skills in learning. e-comics is one of the learning media that is easily understood and liked by students as well as an effective learning media to use in learning.

KEYWORDS

E-comics, Learning Media, Skills

INTRODUCTION

Technology has developed rapidly in the world of education (Gilles et al., 2018). Technology is a determining factor of the progress of the times (Kurniawan et al., 2023). Technology is a science that includes learning media (Koch Fager et al., 2019). Technological processes produce unwanted by-products called pollutants and deplete natural resources, harm and destroy the earth and the environment (Gatteschi et al., 2018).Technology can increase the use of learning media so that it brings up many features of learning media that can generate enthusiasm for student learning (Lwin et al., 2023). Technology is a trigger for producing and bringing out educational innovations so that they continue to develop according to the times (Wang et al., 2018).

Technology is a trigger for producing and bringing out educational innovations so that they continue to develop according to the times (Wang et al., 2018). Technology is increasingly developing into the world of education, giving rise to the enthusiasm of educators in creating tools that have the potential to support media in learning,

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and with this makes the learning process simpler and easier for teachers to use.that can be done to produce a presentation to suit the purpose of carrying out the teaching and learning activities

Media effectiveness in learning is a profitable aspect in education (Simbolon et al., 2020). This is the application of learning media in learning motivation and being able to trigger students' desire to read (Yang et al., 2021). and is a potential to be developed so that motivation arises in students to learn with the media (Lippi et al., 2022). Students can express their knowledge in a more interesting way in cartoon illustrations (Thomassen & Munthe, 2021). Educator participants can achieve an increase in the process of reading e-comics which is almost the same as those who rarely read (Fadlil & Rosyidi, 2020). Students understand better by using simple, concise, concise and clear words. The media provide better techniques for disseminating (Zhang et al., 2021). Media in the form of e-comics can also increase student activity in learning using media. By having learning media in the form of pictures or e-comics, it can trigger students' attention to learn more.

One example of learning media in the form of additional devices that use electronics is the application of e-comics. e-comic application is a form of cartoon images that reveal characters and play stories sequentially (Ding et al., 2018), which is closely related to images designed to entertain readers (Nasir et al., 2021). Media is anything that can be used to convey messages (learning material) (Çamcı, 2020). Stimulating the mind, anything that can be used to convey messages (learning material) (Daly, 2022), stimulate students' thoughts, feelings, attention and abilities, so as to encourage a two-way learning process (Delli & Chang, 2018), namely as a teaching aid and as a learning tool (Li et al., 2020). Media that can be used by students themselves can generate interest in learning so that students are more enthusiastic about using e-comic media and are not left behind by the use of technology in the old days.

E-comic is a learning resource that is expected to enrich other learning resources (N. Zhao et al., 2018), providing more conducive learning in the classroom, as a literacy medium. Besides that (Sun et al., 2022), e-comic is expected to be used inside and outside the classroom to function as a medium (B. Zhao et al., 2021). In addition to the visual message in the picture (Ostarek et al., 2019), comics are also able to convey verbal messages through dialogue between characters in the story (Bodie et al., 2018). Media and comics can be modified so that learning is more communicative, for example by playing a role or as a storytelling medium. Based on the trial results of the application of the e-comic model, the appearance of open visual media in the form of comics and contemporary-style storylines makes this e-comic application interactive as a learning medium. (Tavares et al., 2018). It is suggested that this e-comic model be chosen as a medium that is utilized in a large budget formeet the needs of educators and studentsin learning.

This e-comic is usually used ininstructional Media. There are lots of guidebooks or instructions made in e-comic format, which can be in the form of an e-comic book (De la Torre Gomar et al., 2021), E-comic Poster, or other display (Soiza, 2021). Usually readers of this book will find it easier to quickly understand than using a guidebook that doesn't have pictures. then e-comic media can be used as one of the learning media that is used to facilitate students in learning and will have an impact on student learning success. e-comic media packaged with illustrated images, with a mix of colors contained in each image (Herlina et al., 2021), which can distract students from reading e-comics is a medium that is very flexible and has become part of the daily lives of teenagers (Yu et al., 2018). e-comics in the form of an electronic-based digital format that not only displays the storyline, but can also insert games, animations, films or other applications that make it easier for readers to follow and enjoy each story and saving can be done online or through certain gadgets .

Learning media developed based on validation by material and language experts (Rawindaran et al., 2021), validation of learning media experts, validation of expert learning practitioners and the results of trials by teachers and student responses to media used in learning (Sepp et al., 2018), and around the shape of the flat, which is an interesting media image and will be made into an e-comic with the aim that it will be easier for students to understand, the concepts can improve problem-solving skills which will be interviewed to students to better understand the storyline and to apply (Ahmad et al., 2021), it was stated that it was appropriate to use comic media learning in the form of distributing questionnaires on comic learning media with this research giving the result that

e-comic media can assist teachers in overcoming problems in delivering a material. Balancing (Побиванцева, 2021). the learning strategy applied provides a deeper understanding so that the expected learning targets can be achieved properly.

MediaDigital e-comics on science system material have been successfully developed and obtained very good interpretation values and are suitable for use in a variety of learning. e-comics to help increase students' learning motivation in manners (Chan, 2018)e-comics are electronic e-comics or digital e-comics. e-comics is a form of visual communication that has the power to convey information in a popular and easy-to-understand way (Elmer et al., 2018). The collaboration of text and images that are arranged into a storyline is the strength of e-comics (Jadidi et al., 2018). Images make the story easy to absorb, which you want to convey will be easy to follow and remember (Zhu & Xia, 2018). It is easy for students to remember and can also understand the description of the delivery of e-comics and there are also those who don't like using e-comics, so it needs to be conveyed to those who are not interested in using e-comics and will over time be very interested in using e-comic media. reader

E-comic is a form of visual communication media that has the power to convey information in a popular and easy to understand manner (Azer et al., 2021). This is possible because e-comics combines the power of images and writing (Shih et al., 2018), a picture storyline makes information more easily absorbed. Text makes it more understandable, and flow makes it easier to follow and remember (Capizzi et al., 2022). E-comics is a visual communication medium and it is more interesting to tell stories from these pictures to entertain students and be able to learn more about the essays that are told in the delivery and enrich the learning resources obtained from published curriculum books, namely comics (Patel et al., 2018)As a visual communication medium, e-comics can be applied as educational aids and are able to convey information effectively and efficiently in the process of making e-comic media based on international learning.

This study proves the positive influence of the mediae-comics on students' reading comprehension abilityImproving Reading Comprehension Skills Through the Use of Educational E-comics. This study shows that student activity has increased and is more enthusiastic. One of the e-comic learning media is still lacking in teaching innovation and the limited use of media is developed to create active and innovative learning and can make it easier for students. Judging from the image and visual aspects, it shows that digital e-comic media is in accordance with the development of the independence curriculum, such as the technology used now, the media is still not used enough and it is also unclear, while the display of access to loading is not fast enough. The interview results need to be developed into a design to provide a relaxing effect on students in understanding learning media.

RESEARCH METHODOLOGY

After tracing the research method, it turns out that this research isusing quantitative methods. WheremethodThese are numbers in the presentation of the data (Boeren, 2018). The use of this quantitative method is very relevant to the discussion that the researcher raises regarding the problem. Research with this quantitative form takes data from direct sources related to the discussion (Alam et al., 2020), where in this study researchers took data sources that came from distributing Google form questionnaires that researchers distributed via the WhatsApp application only. In the distribution of the Google form, there are 20 questions that the researcher compiled related to the problem (Miron-Spektor et al., 2018), in the distribution of these questions the researcher gave a kind of obsessive answer to the fillers, including strongly agree, agree, disagree, and strongly disagree. That way the readers can fill out the Google form according to what they want.

The data source from the research that the researcher collected only came from sharing the Google form link, the Google form was created and distributed by the researcher on Sunday, April 2, 2023 via the WhatsApp application which was distributed to the contacts in the researcher. As far as the sharing of the Google form link is concerned, there are around 17 people who have filled out and

submitted their answers to the problems that the researchers described in the form of questions. From the answers given by the readers, the researcher took data for the smooth running of this research. In the discussion that the researchers did that the quantitative approach could be well developed,Media that emphasizes analysis, data collection is carried out by distributing questionnaires to students to find out their knowledge in advance, the object to be observed, the purpose of the problem to be made, preparing observations, determining secondary data needed learning e-comic media

E-comic learning media delivery arranged in application activities research activities results of observational interviews increasing resource persons held, in understanding the development of e-comic media, developed learning provides improvements in the field of understanding and can display objects that are more interesting using various variations of images , and illusion into e-comics. This research on e-comics consisted of interviews, explanations from sources, as well as the amount of data from several questionnaires that had been provided by previous researchers, then filled in by a number of respondents. The results obtained state that the use of e-comics as a medium in learning can arouse the enthusiasm of students, increase the attractiveness of students in terms of learning, as well as facilitate educators in using this e-comic. E-comic also has advantages and disadvantages in learning(Nayak et al., 2019). The advantages of E-comic media, in addition to the unique characteristics of E-comics, must be acknowledged that the effectiveness of media in learning is an advantageous aspect of learning media education. Weaknesses of e-comics, among others, are practical, easier, interactive and easily accessible from various circles.

RESULT AND DISCUSSION

Quantitative research resultsis a research technology evaluating and interpreting all available research. With this method conducting initial research that changes the results of technological research using products from the results of interviews aimed at teachers and students. With this research, it can analyze the needs needed, namely e-comics, learning media products that have been said to be feasible, the average results for the good category of e-comics can be viewed from the side of its uses in the field of Education, namely facilitating interesting learning. besides that e-comics can have a positive impact if used properly, and have a negative impact if e-comics are not used in accordance with proper regulations.

From the results of the discussion above, it is stated that learning uses e-comics to be able to apply developmentsvalidation and being able to process e-comic learning mediaby using quantitative methods and the application of learning resources, based on the results obtainedthe use of research results on e-comic media which are useful as interactive models is appropriate and proven to be suitable for use as appropriate learning media for learning with the applicable curriculum. The multi-media application of e-comics is felt to be capable of having many positive impacts for students to understand the learning material presented. This e-comic form can also make it easier for teachers to convey learning material by displaying cartoon pictures by displaying various funny characters as actors in a story, so that students feel entertained and help them quickly remember and understand the content of the material. In addition, economic media also functions as a tool to help students understand concepts at school.

Table 1. Results of research data with 17 students

No	Question	Answer			
		Strongly agree	Agree	Don't agree	Strongly Disagree

1.	The use of e-comic learning media is very beneficial for students	29%	70%	0%	0%
2.	This e-comic is usually used in learning media	11%	82%	5%	0%
3.	The e-comic media is packaged with illustrations of colorful blends contained in each image	29%	64%	11%	0%
4.	E-comic aims to make students easier and understand	29%	64%	11%	0%
5.	The development of e-comic media is very liked by students	11%	88%	0%	0%
6.	Collaboration with text and pictures that are arranged into a storyline	17%	76%	59%	0%
7.	E-comic can be applied as a student aid	17%	82%	0%	0%
8.	E-comic is a boring student learning process	5%	17%	64%	11%
9.	E-comic media uses a lot of story line words	0%	17%	64%	11%
10.	Many e-comic media lack pictorial illustration learning	5%	35%	58%	0%
11.	The implementation of the e-comic model displays visuals with media in the form of stylish e-comics or contemporary storylines	11%	70%	17%	0%
12.	In the role of a student can observe e-comic media in improving abilities	23%	76%	5%	0%
13.	Teachers in conveying school learning material by displaying pictures that support	23%	70%	5%	0%
14.	Efforts to regulate obligations regarding schools to facilitate interesting learning	35%	58%	5%	0%
15.	The characteristics of e-comic media, namely: distinctive, which must be recognized in terms of effectiveness in learning media	11%	82%	5%	0%
16.	Using mobile-based e-comic media increases the	29%	70%	0%	0%

	attractiveness and motivation of students in learning and is easy to use				
17.	E-comic media is more scientific and easy to understand	29%	52%	17%	0%
18.	E-comics can convey their knowledge effectively	11%	88%	0%	0%
19.	In students can achieve an increase in the process of reading e-comics almost identically than reading rarely	23%	70%	5%	0%
20.	Development of e-comic media containing good stories, interesting and entertaining for students	17%	88%	0%	0%

Based on the results from the table above, the researcher obtained some data from several respondents who had answered the questions that had been shared about the use of e-comics as a pictorial learning medium to train students' skills. So, the results show that the use of e-comics is very appropriate for students, because e-comics makes it easier for students to create a more active, creative and effective learning process for the development of their learning knowledge, so that students can be more enthusiastic in the learning process. likewise with the teacher. A total of 20 questions have been tested on 17 respondents where this statement contains the use of e-comics in learning media, its purpose, its application, and its advantages and disadvantages.Statements containing the use of e-comic learning media are very beneficial for students to get a percentage of 70% in the agree category. Statements containing E-comics are usually used in learning media to obtain a percentage of 82%. Statements containing aboutE-comic media that is packaged with colorful blend illustrations printed on each image gets a percentage of 64% in the agree category. The statement containing E-comics aims to make it easier for students to understand and get a percentage of 64% in the agree category. The statement which contains the development of e-comic media is very liked by students, obtaining a percentage of 88% in the agree category. Statements that contain text and pictorial collaboration that are arranged into a storyline get a percentage of 76% in the agree category. Statements containing e-comics can be applied as a tool to help students get a percentage of 82% in the agree category. Statements that contain e-comics are a boring student learning process, obtaining a percentage of 17% in the agree category. Statements that contain e-comic media use the words storyline with a percentage of 17% in the agree category. The statement that contains many e-comic media lacks the learning of illustrated illustrations to get a percentage of 35% in the agree category. Statements containing the implementation of e-comic media displaying images with media such as e-comic transitions or contemporary storylines get a percentage of 70% in the agree category. The statement that contains many e-comic media lacks the learning of illustrated illustrations to get a percentage of 35% in the agree category. Statements containing the implementation of e-comic media displaying images with media such as e-comic transitions or contemporary storylines get a percentage of 70% in the agree category. The statement that contains many e-comic media lacks the learning of illustrated illustrations to get a percentage of 35% in the agree category. Statements containing the implementation of e-comic media displaying images with media such as e-comic transitions or contemporary storylines get a percentage of 70% in the agree category.

The statement that contains about the role of a student can observe e-comic media in increasing the ability to get a percentage of 765 in the agree category. Statements that contain teachers in conveying school learning materials by displaying pictures that support obtaining a percentage of 70% in the agree category. Statements containing efforts to regulate obligations regarding schools to facilitate interesting learning obtain a percentage of 58% in the agree category. The statement which

contains the characteristics of e-comic media, namely: typical, which must be recognized in terms of effectiveness in learning media obtains a percentage of 82% in the agree category. Statements that contain mobile-based e-comic media increase the attractiveness and motivation of students in learning and are easy to use, obtaining a percentage of 70% in the agree category. Statements that contain e-comic media are more scientific and easy to understand, obtaining a percentage of 52% in the agree category. Statements containing e-comics can convey their knowledge effectively, obtaining a percentage of 88% in the agree category. The statement that contains about In students can achieve an increase in the e-comic reading process almost identically rather than rarely reading obtains a percentage of 70% in the agree category. Statements containing the development of e-comic media contain good stories,

In the table below there are statements of some of the questions on the roles and challenges studied at school or college. Statements resulting from several statements in the development of e-comic media are very helpful for research in examining pictorial learning which is to train students' viewing skills in their abilities. The statements tested in this study were 20 statements which contained the development of e-comic media which expresses ideas and thoughts and expresses itself as an oral form.

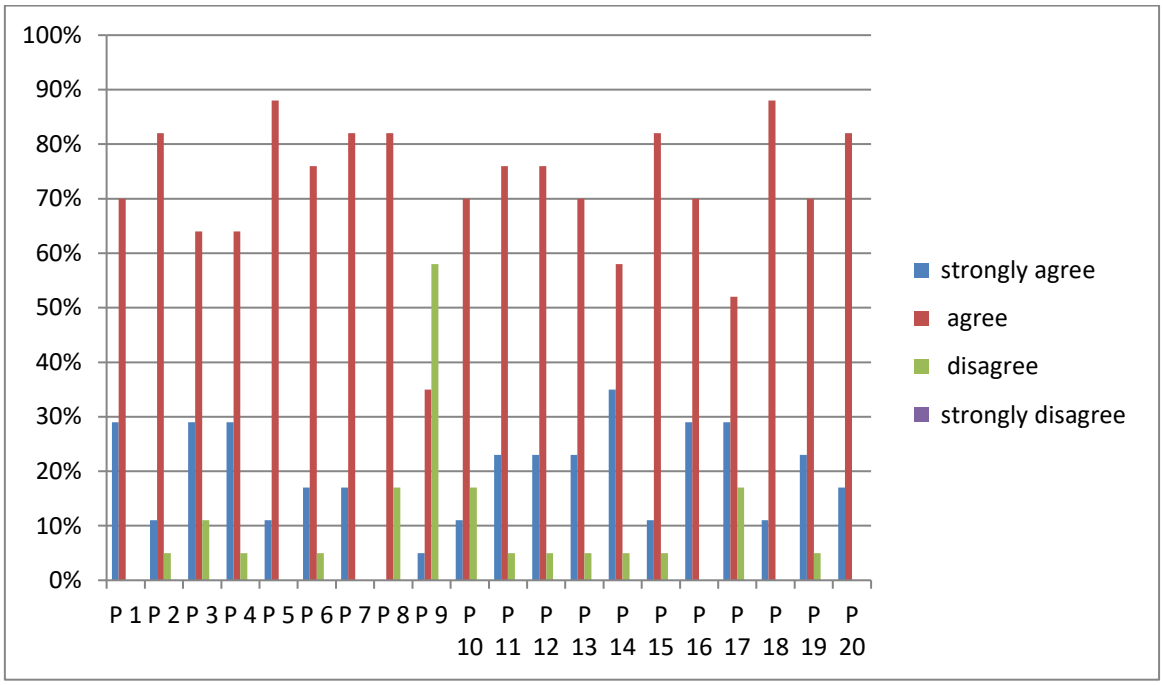

Figura 2. Development in E-comic Media

The graph above is a graph of pictorial learning. The results obtained explained that the study used 20 questions about roles and about pictures in learning to train students' viewing skills. Question 20 aims to find out opinions about the role and challenges of learning. The questions that get the highest percentage gain in the first category strongly agree are in question 14, which is 35%. the highest percentage gain in which both categories strongly agree is in questions 1,3,4,16,17, which is 29%. the lowest data acquisition with the category strongly agree is in question 8, which is 5%. the first highest percentage gain in the Agree category is in questions 5.18,20 which is 88%. the highest percentage gain for the two Agree categories is in questions 2,7,15 which is 82%. the lowest data acquisition with the agree category is in question 8.9 which is equal to 17%. the first highest percentage gain for the Disagree category is in question 8.9, which is 64%. the highest percentage gain for the two Disagree categories is in question 6, which is 59%. the lowest data acquisition is found in questions 2,12,13,14,15,19 with the Disagree category, namely 5%.

The picture above is an example of an e-comic display. Which is utilizationof information and communication technology is an integral part of education in Asia.E-comics can be interpreted as cartoon images by being able to convey text in a light and fun style. Developing E-comic media styles with digital forms based on mobile devices to convey learning messages is an alternative to developing learning media. Meanwhile, by maximizing e-comics learning media that are easily understood by students effectively and increase in understanding that contains creativity and interest in the development of e-comics, not only pictures are needed, but also animation and audio if necessary. Color It should also be considered to generate interest in students as users to utilize e-comics later, so that students can display their work in the form of media-comic skills used.

The author of this story can be finished by ending the development of the storyline. The skill of writing stories must be mastered by educators, because later educators will play an active role in delivering higher quality material, therefore educators must also understand what are the ways to make e-comics and what are their functions and uses for students, so that later the e-comic media used runs optimally. At this stage, educators write complete stories that will be developed in e-comics complete with dialogue from the characters in the story. The dialogues will be optimized and added information in the material to students. In addition, the dialogue used as the basis for writing material also explains the story to develop a drama plot from the storyline that has been made.

The process of providing and using information that forms the basis for decision making to improve the quality of products or learning programs. In it aims to determine what should be improved or revised so that the product is more effective and efficient when applied in the field or situation. Actually, the picture needs to change the material that is developed in everyday life and to know the experience of using e-comic sources. As for material that has not been adapted to learning material, in assisting e-comic media it can make it easier for teachers to convey material. Besides that, it can also increase students' interest in reading. E-comic media can increase students' reading interest and interest because there are illustrations that make it easier for students to understand the contents of the reading.

Educational e-comic media to improve reading comprehension skills. These e-comics contain informative stories, so these e-comics are called educational or educative e-comics. Learning media or tools function to make it easier for students to understand readingreading skills so that students master vocabulary more. In addition, e-comics make readers enter into the story emotionally presented with interesting illustrations and scenarios. This is a plus educational E-comic building created. This aims to keep students enthusiastic about reading and not bored with the subject matter. When compared to material books which do not contain interesting illustrations, instead they are intended to be E-comics to foster students' interest in learning an important role in learning, namely creating and growing students' interest in reading. When combined with the right learning methods, e-comics can make learning activities more effective.

E-comics that contain subject matter can be multiplied; students' reading interest is initially low. This is because many students are not interested in reading.E-comic is an image with an interesting plot, easy to understand, and easy for students to understand difficult material. It is hoped that the presentation of material in E-comics will make it easier for students to understand the material. The use of e-comics is expected to be able to provide a new color in learning so that students' learning motivation appears with e-comic-based media. E-comics that will be used as a learning resource must go through the stages of validation by experts so that it can be said to be feasible. This assessment is carried out by the contents of the assessment sheet or E-comic assessment which will be used as a learning resource must go through the stages of validation by experts so that it can be

said to be feasible. This assessment is carried out by the contents of the assessment sheet or the E-comic Media Development assessment to increase students' learning motivation and reading comprehension skills.

The use of media will make it easier for students to learn comic media using media can be designed to be an interesting, fun learning so that students are not fastbored and can motivate and stimulate students to enthusiasm in learning. Based on the information interview that there are still many students who think that learning e-comics does not support the results of the interview activities which show teaching materials, namely e-comics, interactive pictorial learning media, from students towards teaching materials that have been developed because this test should use a cellphone, However, due to the constraint that some students use their parents' smart phones, the distribution of e-comics is carried out 1 day before the test via the class WhatsApp group. Before carrying out the trial, students were distributed e-comics online and given instructions regarding e-comic teaching materials.

E-comic pictorial learning media can be described as pictorial media that contains information or instructional information and can be used as a learning process. Comic media can also convey or transfer their knowledge as a submission material, it needs to be used in the field of interactive learning resources e-comics as a whole and transparent pictorial learning media, carving meaningful pictures skills directing materialization exemplifying students who are less creative like e-media comic, students need to change the boredom of conveying e-comics with pictorial learning media to a large audience, don't be too boring delivering e-comic material which can be an agenda for empty activity opportunities in daily life to be delivered in the form of learning that is difficult to explain verbally and provide concrete experiences to students. learners. Media as one of the learning components is just a teaching and learning aid.

CONCLUSION

Based onFrom the discussion above, it can be concluded that e-comics as a pictorial learning medium is useful for training students' viewing skills. so that students are not easily bored in the ongoing learning process. As well as being able to make it easier for students to understand material in language that is easy to understand and attract students' interest in reading. E-comic media also aims to increase the effectiveness of learning, apply, and can foster students' interest when the learning process is in progress. Students also feel happy and eventually bring up a sense of love for learning. E-comic is one of the appropriate media to be used as the most effective learning media for students. This is proven by the difference in learning outcomes of students who use e-comics as a learning medium with students who still use manual media in the learning system. From the data, the research results were obtained from 17 respondents in the tables and graphs that have been made, e-comic media is one of the media that is most liked by students.

AUTHORS' CONTRIBUTION

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.
Author 2: Conceptualization; Data curation; In-vestigation.
Author 3: Data curation; Investigation.

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