DEVELOPMENT OF LEARNING MEDIA BASED ON *FOCUSKY* APPLICATIONS ON THE STRUCTURE AND FUNCTIONS OF PLANT TISSUE

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ABSTRACT

This study aims to produce a Focusky application-based learning media on the material structure and function of valid plant tissues. This research uses the Research and Development (R&D) method and the ADDIE model. Data were obtained by validating learning media to media experts, material experts, and teachers and looking at student response questionnaires to the media developed by conducting limited validity trials. The validation results by media experts showed an average of 92.5% (very valid). The results of material expert validation get an average of 93.33% (very valid). The validation results by three teachers who teach Biology subjects get an average of 96% (very valid). The students' responses from the three schools averaged 93.9% (very good). Based on the validation results from experts, biology teachers, and student responses, it was found that the learning media product based on the Focusky application on the material structure and function of plant tissue was categorized as very valid for use in learning.

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INTRODUCTION

The development of the times in a more advanced direction cannot be denied, including the development of technology and information in the field of education. Arsyad (2019) explained that educational technology is a science to facilitate learning and improve the performance of educators by creating or managing processes and even looking for appropriate technological sources.

Media is a tool to convey information that the recipient will receive. This information can be in the form of learning materials in the field of education. Learning media is a means of delivery that is used to convey messages and can stimulate students' thoughts, feelings, attention, and willingness so that the teaching and learning process is effective and controlled. Mistianah & Qomariah (2019) also says that a teacher must be able to choose the proper learning tools so that the learning process runs effectively.

Novitasari et al (2017) said that Focusky is an application that can be used as a learning medium because it can combine zoom and path features so that students' attention will be focused during the learning process. Nurwahyuni et al (2019) also said that Focusky media is included in audiovisual media because it focuses on the sense of sight and hearing, thus enabling students to learn according to their visual and auditory abilities.

Plant tissue is a group of plant cells with the same shape, origin, function, and structure. The material structure and function of plant tissue are problematic materials to understand. In addition, the number of subjects in this material requires the right delivery tool so that students do not get bored quickly. Gusti & Syamsurizal's research (2021) stated that students had difficulty in the material on the structure and function of plant tissue because there were many foreign terms and abstract material. Research by Rosmalina et al (2016) also stated that student learning outcomes on the structure and function of plant tissue were still below the KKM because the material was quite tricky. Based on the researcher's interview with class XI students, he said that the material on the structure and function of plant tissue is somewhat tricky. The delivery of material is only assisted by printed books and student worksheets (LKS), so students feel bored quickly. Students expect teachers to use varied and more exciting learning media so that learning is easy to understand.

The results of preliminary observations and interviews were conducted in 3 high schools in Pekanbaru City, namely SMA N 14 Pekanbaru, SMA N 6 Pekanbaru, and SMA PGRI Pekanbaru in September-November 2021. It is known that the learning media teachers use are power points, charts, and pictures. When learning takes place, students only see printed books. The teacher explains, so the learning process is less attractive. The results of interviews with biology teachers at the school where the study was conducted said that the learning media using the Focusky application had not been used in the learning process. Therefore, the tool in the form of learning media using the Focusky application is suitable, especially in the structure and function of plant tissue, because it can combine images, videos, music, text, and animation. Media will undoubtedly help a teacher in the process of delivering material, so the teaching and learning process becomes more interesting. Agustina (2021) stated that the learning media with the Focusky application positively influenced the teaching and learning process and made it easier for teachers to deliver the material.

Therefore, there is a need for learning media using the Focusky application, and it is hoped that these various problems can be resolved. Muyassar (2020) mentioned several advantages of learning media using the Focusky application, namely: (1) being able to combine images, text, music, audio, and video; (2) it has an attractive appearance that makes students more enthusiastic about learning; (3) sharpen students' visual thinking skills; (4) it can be used offline; and (5) it can focus students' attention because there is a zoom feature.

RESEARCH METHOD

This research was conducted in 3 high schools in Pekanbaru City, namely SMA N 14 Pekanbaru, SMA N 6 Pekanbaru, SMA PGRI Pekanbaru. This research was conducted in September-November 2021. This study used the Research and Development (R&D) method. This research model uses the ADDIE model, which only reaches the development stage.
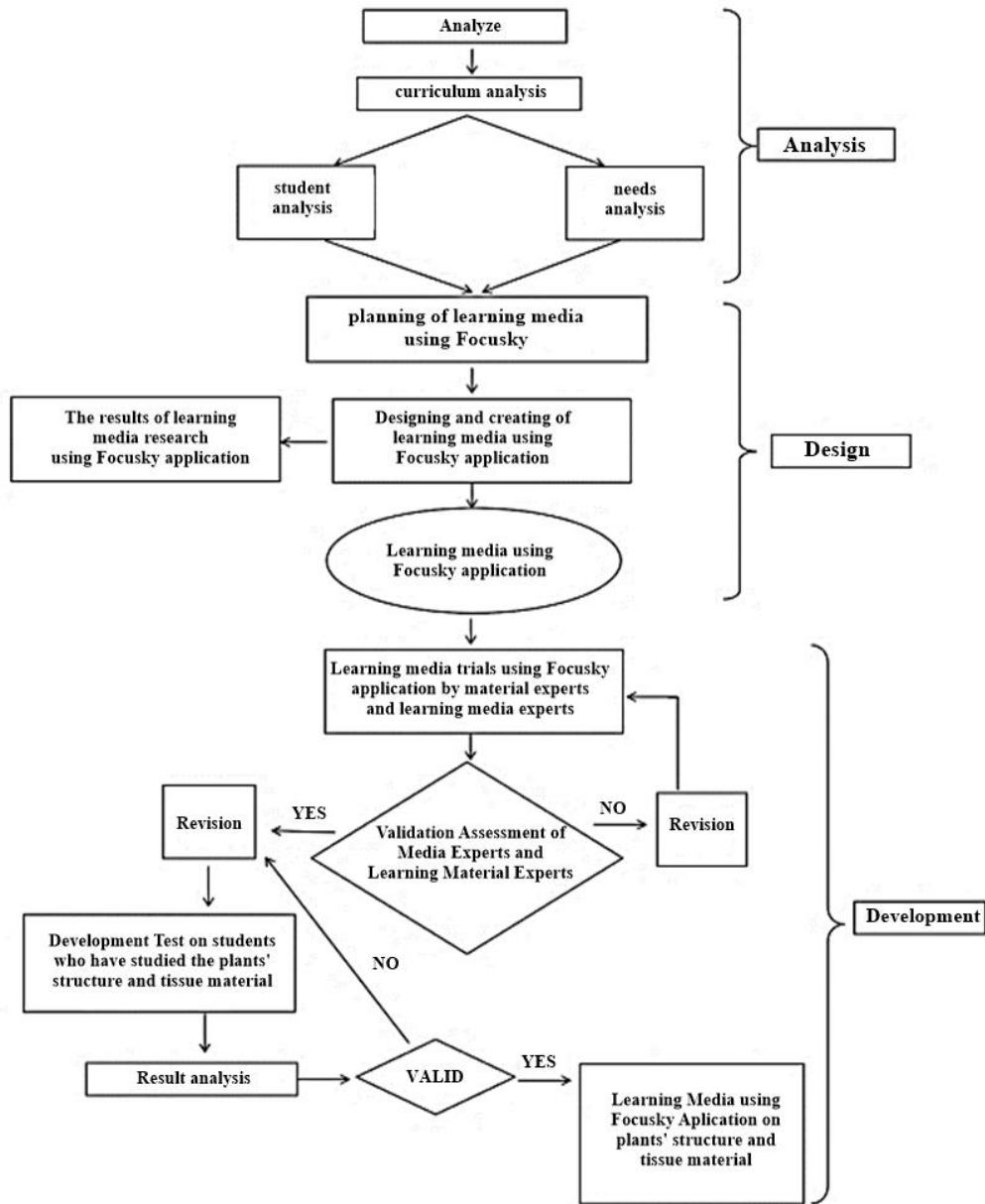
Figure 1. Steps of the ADDIE model (Analysis to Development) (Mellisa & Yanda, 2019)

The analysis phase consistsed of curriculum, needs, and student analysis. Then the design stage consists of planning learning media using the Focusky application and designing and making learning media using the Focusky application. The development stage consisted of validation of learning media by one media expert, one material expert, and three biology teachers, as well as testing on 45 students at the school where the research was conducted.

The research data was obtained by filling out initial needs questionnaires, expert validation sheets, and student response questionnaires. Initial data was obtained by providing initial needs questionnaires to teachers and students of class XI. Purpose of giving Initial needs questionnaire to determine whether teachers and students have

used this Focusky-based learning media and as a basis for designing the desired and needed learning media.

The final data of the study was obtained by filling out the validation sheet and student response questionnaires. To fill out the validation sheet, validators who are experts in the field of learning media consist of media experts, material experts, and biology teachers. The validator gives a general impression, suggestions for improvement, criticism, and a statement of the validity of the learning media made.

The data analysis technique used the Likert scale method. After the results of each validation test were known, to obtain conclusions from all the results of each expert, teacher, and student response, it can be adjusted to the validity criteria

in Table 1 and the student response criteria in Table 2.

Table 1. Criteria for validity according to the validator's assessment

No	Criteria of validity	Validity level
1	85,01% - 100%	Very valid, can be used without revision.
2	70,01% - 85%	Valid, can be used with minor revision.
3	50,01% - 70%	Less valid, media needs major revision.
4	01,00% - 50%	Invalid, should not be used.

(Akbar, 2016)

Table 2. Category of Student Responses

No	Achievement Criteria	Category
1	86% - 100%	Excellent
2	76% - 85%	Good
3	60% - 75%	Fair
4	55% - 59%	Less

Handoko (2017)

RESULTS AND DISCUSSION
Learning Media Validation by Media Experts

Validation by media experts is seen from two aspects, namely the media design and programming aspects. Media validation is done by displaying learning media using a laptop, after which a validation sheet is given. The results of the validation of learning media using the Focusky application by media experts are presented in Table 3.

Table 3. Results of Validation by Media Experts

No	Validator	Aspect assessed	Eligibility (%)	Validity level
1	AN	Media design	92%	Very valid
		Program	93%	Very valid
Average rating for all aspects			92,5%	Very valid

Based on Table 3, it can be seen that the assessment by media experts got an average overall aspect of 92.5%, with a very valid category meaning that the learning media using the Focusky application was feasible to be tested on students. Based on the percentage of media design aspects obtained from media experts, it can be judged that the media screen display is attractive and appropriate, the readability of the text is straightforward, easy to read and understand, and the images presented on the learning media are clear and help understand the material, videos can also stimulate student learning, audio on learning media using the Focusky application does not interfere with learning.

Based on the percentage of program aspects obtained from media experts, it can be assessed that the learning media using the Focusky application is communicative. The learning media with the Focusky application can be used repeatedly and can be used both inside and outside the classroom. In addition, learning media using the Focusky application can create a sense of pleasure for students because it combines various features and becomes a tool to understand and remember information. Researched by Komalasari et al (2021) stated that the Focusky application-based learning media had met the criteria for good learning media to be used as learning media and received good responses from students.

In line with Mistianah & Qomariah Research. (2019) which states that the meaningful aspect of learning media using the focusky application gets a percentage of 88% with a very decent category, this shows that learning media using the focusky application gets a very good score and can be used in the learning process.

Learning Media Validation by Material Experts

Validation by material experts aims to find out the opinions of material experts about the accuracy and suitability of the material. Material validation is done by providing a printout of learning media. The results of the validation of learning media by material experts can be seen in Table 4.

Table 4. Validation results by material experts

No	Validator	Aspect assessed	Eligibility (%)		Validity level	Category
1	SA	Content Quality	Content Presentation	100%	Very valid	
			Content Depth	80%	valid	
			Language	100%	Very valid	
Average				93,33%	Very valid	

Based on the assessment of the material expert, the learning media using the Focusky application that is being developed gets a very valid category and is feasible to be tested on students. Improvements by researchers from material expert suggestions such as material presentation indicators to improve the appearance of the material to make it easier to read and adjust the location of supporting images to help explain the material. Research by Pratiwi et al (2019) states that the presentation of exciting and appropriate material makes the material delivered using Focusky-based learning media more efficient.

Amrulloh et al (2013) stated that a suitable and appropriate learning media used in the learning process is a learning media that is in accordance with the material and objectives to be achieved. Thus, the accuracy of the material in a

learning media is the most important thing because if the material presented in a learning media is not guaranteed to be accurate, then the learning media cannot be used in the learning process. In line with the research of Putri & Syafril (2020) said that the development of Focusky-based learning multimedia for material experts got a percentage of 97% with a very valid category so that Focusky-based learning multimedia was effectively used in the learning process.

Learning Media Validation by Biology Teachers

This research was conducted by displaying learning media using a laptop and printouts to be seen and observed as well as providing validation sheets to biology subject teachers. The results of the study of learning media using the Focusky application by the teacher are presented in Table 5.

Table 5. Validation results by Biology Teachers

No	Aspect assessed	Eligibility (%)			Average (%)	Validity level
		NRY	MM	AP		
1.	Media Desain	92%	95%	100%	95,7%	Very valid
2.	Program	93%	100%	100%	97,7%	Very valid
3.	Content quality	85%	100%	100%	95%	Very valid
	teacher assessment of all aspects	90%	98,33%	100%	96%	Very valid

Based on the assessments of the three biology teachers, the learning media using the Focusky application that is being developed is categorized as very valid and deserves to be tested. According to the three biology teachers, the design aspect of learning media is good and exciting. The color combination on the initial display and each slide are appropriate. The writing is also easy to read and understand, the image layout is also appropriate, it only needs to add a short title to the image, and the video and audio quality is clear and helps clarify the material.

In the aspect of the program, namely for indicators of ease of use, learning media can be used repeatedly and outside the classroom to repeat learning. In accordance with the assessment of the indicators of media benefits, learning media using the Focusky application can attract students' attention because the learning media developed have interesting features.

Regarding content quality, the three biology teachers stated that the material presented followed the Basic Competencies, and the learning objectives and materials were also systematically arranged. On the indicator of the depth of the material, the addition of videos and supporting pictures can help clarify the material and the linguistic indicator. It can be seen that the

language used is easy to understand and by the level of students' thinking.

The research of Yunita et al (2019) stated that learning media using the Focusky application provides benefits to students during the learning process by developing the student's discipline character as evidenced by the research results obtained an average percentage of 93% and learning media using the Focusky application is feasible to use during the learning process.

Agustina (2021) stated that the Focusky application has the advantage of being an exciting and fun learning medium, as evidenced by the results of research in which students are motivated to be enthusiastic in the learning process and learning media using the Focusky application can be used anywhere and anytime so that the quality of student learning increases.

Student response

Collecting student response data is done by providing opportunities for students to see learning media using the Focusky application from each student's Android with MP3 format and displaying learning media developed in front of the class using Infocus. The results of the research on student responses are presented in Table 6.

Table 6. Student's respon

No	Aspect assessed	Eligibility			Average (%)	Eligibility level
		SE1	SE2	SE3		
1	Desain Media	95,46%	93%	95,2%	94,5%	Excellent
2	Kualitas Isi	94,7%	89,33%	93,33%	92,45%	Excellent
3	Program	95,33%	94%	94,67%	94,7%	Excellent
	All aspect	95,2%	92,12%	94,4%	93,9%	Excellent

Annotation:

SE1 : SMA N 14 Pekanbaru

SE2 : SMA N 6 Pekanbaru

SE3 : SMA PGRI Pekanbaru

Based on Table 6, the responses of students in three schools as a whole have a very good category. Students responded that the learning media using Focusky applications on plant tissue's material structure and function was very interesting. The research of Muntanadiroh et al. (2021) stated that the Focusky application-based learning media could help clarify teaching materials so that the material delivered is not too verbal. The increase in student learning outcomes after using Focusky-based learning media with an understanding level of 89%. The features contained in the learning media using the Focusky application make learning not dull. Students hope that learning media like this can be used by teachers in the learning process, especially in biology subjects, because biology subjects discuss material that is quite difficult.

Based on the percentage of media design aspects obtained from student responses, it can be assessed that the screen display gives a positive impression to students, and the design looks attractive. Besides, the quality of features such as images, video, and audio make learning media using the Focusky application even better. Student's response to the language used in the learning media developed is easy to understand and in accordance with the student's character so that students give a good response also to the quality of the content.

Researched by Apriliantika et al (2021) explained that learning using the Focusky application showed good learning outcomes. In line with Sidqi's research (2021) which says that student learning outcomes have increased after using the Focusky application so that the learning media using the Focusky application is effectively used in the learning process.

CONCLUSION

Based on the research that has been done, it can be concluded that the learning media using the Focusky application on the material of the structure and function of the developed plant tissue got very valid overall results. The validation results by media experts get a percentage of 92.5%, with a very valid category. For material experts, it gets a percentage of 93.33% with a very valid category. For biology teachers, it gets a percentage of 96%, with a very valid category. Learning media using the Focusky application also received very good responses from students. The average response of students from three schools with a percentage of 93.9% with a very valid category. Based on the assessment results by validators, teachers, and student responses, it can be stated that the learning media using the Focusky application on the material structure and function of plant tissue developed is very valid to be used in learning activities.

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