

VALIDATION OF A STORY-BASED PICTURE MODULE FOR EARLY CHILDHOOD STUDENTS: A STUDY IN A KINDERGARTEN IN ACEH

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ABSTRACT

The purpose of this research was to validate a picture-based educational module on animal materials for early childhood students. A quantitative, descriptive research design was used to evaluate the module's appropriateness based on feedback from experts, teachers, and students. Participants included three experts, six teachers, and eight students, selected through purposive sampling. Descriptive statistical analysis using SPSS—incorporating maximum, minimum, mean, and standard deviation values—was conducted to assess the module's validity. Results indicated that the module was rated as valid in terms of content, media, and language. Expert validation yielded mean scores of 3.92 for language, 3.61 for media, and 3.72 for content. Teacher evaluations rated the module's cover and display with means ranging from 3.66 to 4.00, while student feedback on module suitability yielded a range of 3.62 to 4.00. Overall, the module demonstrated validity and suitability for early childhood education, supporting its use in educational settings. The study found that picture-based modules are effective in early childhood education, with high validity across content, media, and language. The collaborative validation process demonstrates their potential for broad applicability in improving engagement and comprehension in a variety of educational environments. The implication of this research indicate that picture-based educational modules are effective tools for engaging young learners, improving comprehension, and improving the quality of educational materials in early childhood education, with the potential for wider application across a variety of subjects and settings.

Keywords: Module, picture-based material, early childhood education, kindergarten students.

INTRODUCTION

Early childhood education is defined as the process of promoting the holistic growth and development of children from birth to six years old. This includes stimulating physical, spiritual, motor, mental, emotional, and prosocial skills for the children's optimal growth (Junaedah et al., 2020; Ling et al., 2024). In the principle of education, providing appropriate learning during the early childhood level is necessary. Learning at this level could influence the students physical, psychosocial, and cognitive development (Carson et al., 2017; Rahmatika et al., 2024). Anshoriyah and Pujiarto (2023) stated that early childhood is claimed

to be the golden age for development since children at this age have the sensitivity and capability to acquire a lot of information, which is an important stimulus for their growth and development. Positive education will shape the student's positive growth cognitively and mentally, and negative education will lead to a worthless, pessimistic, and negative attitude (Rahayu et al., 2022). Therefore, providing children with a positive and appropriate education at the level of early childhood is necessary.

Becoming a teacher in early childhood education is a challenge. Simon and Dan (2017) stated that teachers of childhood education have many responsibilities, such as posing expertise in child development, management, discipline, first aid, pedagogy, curriculum development, special needs identification, and effective communication with parents. Mainly, the childhood education teachers emphasized encouraging children's early personal and social development through student-centered activities and allowing them to develop at their own speed, as well as equipping students with basic education such as numeracy and literacy (Pyle et al., 2018; Cheah & Kong, 2024). In terms of the learning activities, Taylor and Boyer (2019) stated that teachers of childhood education have difficulties integrating the academic standard into the developmental learning experiences of students. In this case, supporting the teacher of childhood education should be a concern since teachers play an essential role in this level of education. Hesketh et al. (2017) stated that childhood education teachers have a significant role in children's development; they are the main actors in the childcare setting and responsible for a substantial aspect of the children's days. Therefore, supporting the teachers at this level is necessary in order to ensure the efficiency of the learning process.

In regard to the need to support teachers in the learning process, one necessary action that can be taken is providing appropriate material or modules for teaching at the childhood education level. According to Salsabila and Kurniawan (2022), even though childhood education is more flexible than other levels of education, the learning material should be arranged appropriately based on students' development goals. Other than that, Ibrahim (2023) stated that a well-prepared work environment in early childhood education is necessary to implement classroom teaching and learning practices in kindergarten education. It will promote a positive cognitive result and a positive social outcome (Riepenhausen et al., 2022; Eğrikılınç & Dere, 2024). Therefore, there is a need to construct and arrange learning material in the form of modules that can support the teaching and learning process at the childhood education level in order to support the teacher's practice. The arranged material can help teachers easily organize the learning practice and deliver the material. However, the material included in the module and the strategy used should be suitable for kindergarten students. In this case, one strategy that can be used is picture-based material.

The use of picture-based material in education has already been discussed by researchers. According to Bere (2022), picture-based material is the basic form of learning strategy, so the students of childhood education level can easily grasp and capture the learning objective. There are several benefits to using picture-based material, such as helping the students to understand something that they have never seen, increasing their learning activities, being used in groups of students, and making the students easily understand the materials (Sangadah et al., 2021). Zulyadain et al. (2023) stated that several advantages of picture-based material were that teachers can easily tract student's abilities, make students think logically and systematically, drive students to think based on objects, enhance students learning motivation, and make students more creative, active, and innovative during the learning process. Octaberlina and Anggarini (2020), in their research, found that the use of picture-based material increases students vocabulary and motivates them to understand the text.

In regard to the need to help teachers by arranging learning material and the appropriateness of picture-based material for students, the current research aims to validate a module based on picture-based material to be appropriately used in early childhood education. It is important since the module construction should be followed by validity testing, so the module can be claimed as appropriate to be used by the targeted user (Aziz and Mamat, 2019; Qudratuddarsi et al., 2022;). Other than that, research that validates picture-based modules in the context of early childhood education is scarce. In the literature, based on our knowledge, only one related study on this theme which was conducted by Eliza et al. (2024). They develop a digital module based on cultural local wisdom-based picture-science stories applications for early childhood children. In the research, descriptive analysis was used to analyze the data. The module was based on a picture-based module but integrated the local wisdom of Minangkabau in the form of a digital module. Based on explanation above, limited research has specifically examined the use of picture-based modules in early childhood education on animal materials. Therefore, the current research aims to validate a module in the form of picture-based material in the animal material for kindergarten students. This research hoped to produce a module that is valid and appropriate to be used in early childhood education. Other than that, this research also hoped to contribute to the discussion of the effectiveness of picture-based material for kindergarten students.

METHODOLOGY

The objective of the current research is to validate a picture-based module in animal material to be used in early childhood education. To achieve the objective, a quantitative survey research design was employed. Researchers deploy questionnaires to examine the module with the experts, the teachers, and the students. These three stakeholders in the early childhood education validated the module based on their expertise and perspectives. Therefore, different perspectives and views are considered in validating the appropriateness of the module to be used in early childhood education.

The participants in this research were divided into three groups: experts, teachers, and students. For the expert group, one expert in language, one expert in media, and one expert in content were involved. The study was conducted in a kindergarten in Aceh, Indonesia, where the population consisted of teachers and students. The teachers and students were selected using the purposive sampling method, which ensures that participants possess the expertise or experience necessary to provide valuable feedback. According to Sugiyono (2018), when the population exceeds 100 individuals, a sample size of 10% to 15%, or even up to 20% to 25% of the population, can be selected for research purposes. In this case, the total population was 105, so 14 participants were chosen for the study. The final sample consisted of 6 teachers and 8 students. Detail information of the participants can be seen in Table 1 and Table 2.

Table 1

Teachers Participants information

Participants ID	Academic qualification	Degree
Teachers 1	Early childhood education	Bachelor's Degree
Teachers 2	Early childhood education	Bachelor's Degree
Teachers 3	English language education	Bachelor's Degree
Teachers 4	Early childhood education	Bachelor's Degree
Teachers 5	Early childhood education	Bachelor's Degree
Teachers 6	Early childhood education	Bachelor's Degree

Table 2

Students participants information

Participants ID	Age ranged	Group
Students 1	5-6 years	Group B
Students 2	5-6 years	Group B
Students 3	5-6 years	Group B
Students 4	5-6 years	Group B
Students 5	5-6 years	Group B
Students 6	5-6 years	Group B
Students 7	5-6 years	Group B
Students 8	5-6 years	Group B

Table 1 showed the information of teachers involved in this research. It displayed that most of the teachers are majoring in early childhood education with a bachelor's degree. It emphasized their appropriateness as the study participants in this research. It is because their understanding of learning material and student development evolved throughout their experiences in university majoring in early childhood education. Other than that, Table 2 showed the information of the students involved in this research. The total number of students is 8 students, with the ages ranging from 5 to 6 years, and they are engaged in group B in the school.

The participants in the current research were given questionnaires to examine the appropriateness of the module. The expert and the teacher were given 37-item questionnaires measuring the cover or display of the module with 9 items, the content of the module with 22 items, and the anatomy of the module with 5 items. And the students were given questionnaires, which consist of 10 items measuring the appropriateness of the module. To facilitate effective responses from children aged 5 to 6, the questionnaire will format interactively, with facilitators reading each question aloud, incorporating visual aids, and guiding responses through pointing, or verbal communication. Moreover, the questionnaire has been modified using simple language, and easy-to-understand choices to improve comprehension and participation. In this case, each of the questionnaires in the form of a 4-likert scale (1=very disagree, 4=very agree).

The result of the survey was analyzed with descriptive analysis in the Statistical Package for the Social Sciences (SPSS). In this case, the mean, minimum, maximum, and standard deviation emerged. In this case, the mean score was considered to be the main statistical analysis result to interpret the result of the research. Since the survey was in the form of a 4-likert scale, the standard or category of validity was defined based on the category displayed in Table 1.

Table 1

Standard of Result Interpretation

Mean score	Category
$3.5 \leq V < 4$	Very valid
$2.5 \leq V < 3.5$	Valid
$1.5 \leq V < 2.5$	Not valid
$0 \leq V < 1.5$	Not valid

Table 1 explains the categorization of the data analysis result. If the mean accumulation is between 0 to 1.5 and 1.5 to 2.5, the module is categorized as not valid. If the mean score accumulation is between 2.5 to 3.5, the module is categorized as valid, and if the mean score accumulation is between 3.5 to 4, the module is categorized as very valid.

RESULTS

The current research aims to validate a story-based picture module that can be appropriately used by students in early childhood education in Aceh, Indonesia. In order to gain a valid module, several aspects of perspective must be considered, namely the perspective of the experts, the perspective of the teachers, and the perspective of the students. Firstly, the module was examined and rated by the experts. In this case, three experts, namely the experts in language, media, and content, were asked to rate the module. The result of the expert validation can be seen in Table 2.

Table 2
Expert Validation

No	Aspect	Mean
1	Language	3.92
2	Media	3.61
3	Content	3.72

Based on Table 2, all of the experts in language, media, and content rate the module above 3 out of 4, indicating their strong acceptance of the module based on their expertise. In terms of the language, the score was 3.92, which was categorized as very valid; in terms of the media, the score was 3.61, which was categorized as very valid; and in terms of the content, the score was 3.72, which was categorized as very valid. Secondly, the researcher asked the teachers to rate the module in order to gain their perspective regarding the appropriateness of the module to be used in early childhood education. The teacher perspective is important because they are the ones directly involved in the teaching and learning practice. The result of the teacher's response is shown in Table 3.

Table 3
Teacher Validation

Aspect	Items	Result			
		Min	max	Mean	Std.dev
Cover and display	The cover letter according to the child's ability	3.00	4.00	3.6667	.51640
	cover compatibility with content	3.00	4.00	3.8333	.40825
	Suitability of the cover picture	3.00	4.00	3.8333	.40825
	Interesting cover color	4.00	4.00	4.0000	.00000
	cover image compatibility	3.00	4.00	3.8333	.40825
	cover compatibility with content	3.00	4.00	3.8333	.40825
	The title of the book corresponds to the content	3.00	4.00	3.8333	.40825

continued

Content	Title attracting children's interests	2.00	4.00	3.6667	.81650
	The media is safe to use and durable to package	2.00	4.00	3.6667	.81650
	Total mean score				
	The contents of the story are presented in a simple and clear way.	4.00	4.00	4.0000	.00000
	The story is easy to understand.	4.00	4.00	4.0000	.00000
	Storytelling compatibility with children's learning	4.00	4.00	4.0000	.00000
	image compatibility with the material	3.00	4.00	3.3333	.51640
	module size according to the needs of the child	4.00	4.00	4.0000	.00000
	Pictured storytelling module provide learning for children	4.00	4.00	4.0000	.00000
	This content module matches everyday life.	4.00	4.00	4.0000	.00000
	gives an understanding of the message in the story	4.00	4.00	4.0000	.00000
	accuracy of use of terms	3.00	4.00	3.8333	.40825
	The language used is easy to understand	3.00	4.00	3.8333	.40825
	language style used according to the needs of the child	3.00	4.00	3.8333	.40825
	Uses Communicative sentences	3.00	4.00	3.6667	.51640
	language style used according to the needs of the child	3.00	4.00	3.8333	.40825
	grammatical accuracy	3.00	4.00	3.6667	.51640
	using PEUBI-compliant spelling	3.00	4.00	3.6667	.51640
	Picture color attractive for children	3.00	4.00	3.8333	.40825
	images and text according to the child's development	4.00	4.00	4.0000	.00000
	image clear and easy to use, the size is suitable for children's development	4.00	4.00	4.0000	.00000
	used letters are simple and easy to read	4.00	4.00	4.0000	.00000
	read accuracy	4.00	4.00	4.0000	.00000
	text accuracy with story	3.00	4.00	3.8333	.40825
	the sentence used clearly and accurately	3.00	4.00	3.6667	.51640
	Total				

continued

Anatomy	Pages suitable for children's reading abilities	4.00	4.00	4.0000	.00000
	Writing is not too narrow, making it easy for children to read	4.00	4.00	4.0000	.00000
	easy-to-read fonts for children	4.00	4.00	4.0000	.00000
	The font size used according to the child's needs	4.00	4.00	4.0000	.00000
	storybook accuracy	4.00	4.00	4.0000	.00000
	Total	4.00	4.00	4.0000	.00000

Table 3 shows the mean score and standard deviation for teacher ratings for the module. In terms of the cover and display of the module, the mean score ranged from 3.66 to 4.00, which is within the standard of being very valid. The item with the highest mean score was the one with the most interesting cover colour; it means that the teachers agree that the module has an interesting cover for the students. In terms of content, the mean score ranged from 3.33 to 4.00. The mean score of 3.33 was categorized as valid. In this case, of the 22 items, 21 items have a mean value above 3.5, which is categorized as very valid, and only one item has a mean score below 3.5, which is categorized as valid. It means that the teachers agree that the content of the module is valid, reliable, and appropriate for the children. Several aspects of the module content were emphasized significantly by the teachers: the content presented was simple and clear; the story displayed in the module was easy to understand; the story was appropriate to be learned by children; the size of the module was suitable for the children; the pictures in the module helped the children learn; the content of the module related to the children's real-life situations; the images and texts in the module were clear and suitable for the children; the letters used were simple and made the module easy to read; and the module was readable.

Thirdly, the perspectives of the students were gathered. In this case, the students were asked to rate the module based on their choices. They were asked by the researcher verbally the question and asked to choose 1 to 4 of the 10 items examining the module's appropriateness. The result can be seen in Table 4.

Table 4

Student Validation

No	Items	Minimum	Maximum	Mean	Std deviation
1	Interesting cover color	4.00	4.00	4.0000	.00000
2	like the color of any object or image in the module	3.00	4.00	3.7500	.46291
3	can distinguish any object or figure in the module	3.00	4.00	3.6250	.51755
4	Interesting cover color	3.00	4.00	3.7500	.46291
5	learning with module is fun	3.00	4.00	3.6250	.51755
6	module makes me more active in learning	3.00	4.00	3.7500	.46291
7	I like the module.	3.00	4.00	3.8750	.35355
8	The story material is easy to understand	3.00	4.00	3.6250	.51755
9	I'm happy to follow the learning with the module.	3.00	4.00	3.7500	.46291
10	The purpose of learning is clearly conveyed.	3.00	4.00	3.6250	.51755

Table 4 displays the results of student validation. Based on the result, the mean ranged from 3.62 to 4.00, indicating that the module is very valid based on the student's perspective. In this case, the highest item mean was the first item, which is the colour of the module cover is interesting ($M = 4.00$), followed by the item indicating the student likes the module ($M = 3.87$), followed by the student likes the colour of any object in the module, the module makes the students more active, and the students were happy using the module in their learning ($M = 3.75$). Other than that, the students agree that with the module, they can distinguish any object or figure in the module, accept that learning with the module is fun, the story in the module is easy to understand, and agree that the purpose of learning is clearly conveyed with the module.

DISCUSSION AND IMPLICATIONS

The current research aims to validate a picture-based material module in animal material that can be appropriately used in early childhood education. The result indicated that, based on the expert perspective, teacher perspective, and student perspective, the module is valid and reliable to be used in early childhood education. It is important to gain the expert perspective because they have expertise and knowledge that are used to rate the module. So, the appropriateness of the module was rated by the person who had the capability. In this case, three experts in three aspects of the module were considered, namely the module language, the module media, and the module content. The result indicated that the experts strongly agreed with the language used in the module, language used in the module and content covered in the module. Therefore, the experts agree that the media used in the module is appropriate and reliable, and the experts agree that the content of the module, which is based on picture-based material, is reliable for children in early childhood education.

The module was also rated significant in terms of its cover or display, content, and anatomy by the teachers. Based on the result, the cover or display of the module is interesting for the students, the content is appropriate for the students of early childhood education, and the anatomy or arrangement is suitable. It is important since early childhood students should be treated as they are. They have different needs and necessities that should be covered during the teaching and learning process. The module was rated by the teachers. It is significant since the teacher is the one who is directly involved in the teaching and learning process. They are the ones who directly interact with the students. According to Uslan et al (2024), the teachers are the ones who have verbal ability in interacting with the students and use interactive pedagogy in interacting with them. It indicated the significant role of teaching in conceptualizing student development in the classroom. Therefore, gaining their perspective on the effectiveness of the module is a must.

In regard to module validation, several other researchers have validated modules to be used in early childhood education. For example, Suyatmin and Sukardi (2018) developed and validated a module in the context of hygiene and healthy living habits for kindergarten students. Aziz and Mamat (2019) validate a module called English Teaching Efficacy Enhancement Module for kindergarten students. Rahman et al. (2021) validates a module on multiple intelligences for early childhood students. These studies indicated that many valid and appropriate modules have been developed covering many aspects of early childhood education, and the current research added the discussion in the form of a module that can be used to teach students about animals in the form of picture-based material. The module can be used to teach students about animals, which is a knowledge that should be mastered by students in early childhood. Based on the result, the students agree that the module has an interesting cover, the

content of the module guide to achieve the learning objective, makes them able to distinguish objects or animals contained in the module because the story or content of the module is easy to understand, and gives fun learning for the students.

CONCLUSION

The purpose of the current research was to validate a picture-based module on animal material for early childhood students. A descriptive statistic was used to explain the appropriateness of the module based on feedback from experts, teachers, and students. The results indicate that the module was categorized as valid based on expert evaluation in terms of content, media, and language. Teachers found it valid regarding cover design, content, and structural organization, while students confirmed its suitability for their learning needs. The study emphasizes the effectiveness of a picture-based module specifically designed for early childhood education, focusing on teaching animal-related material. Through validation involving experts, teachers, and students, the module was assessed as appropriate in terms of content, presentation, and user engagement. The results indicate that the module is well-organized, visually engaging, and suitable for young learners, making it a valuable resource for early childhood education.

This study contributes to early childhood education by presenting a validated instructional module that fosters young learners' engagement with animal-related material. By integrating expert evaluations and direct feedback from users, it provides a framework for creating effective educational resources suited to children's cognitive and visual learning needs. Furthermore, based on the results, it is suggested that educators incorporate this validated module into early childhood curricula to enhance learning experiences. Future studies could investigate its long-term effects on student learning outcomes. Furthermore, developing similar modules for other subjects could further improve the quality of educational materials for young learners.

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