



## Development of E-Flashcard Vocabulary on I Like Fruits as a Learning Media Assisted by Heyzine Flipbook

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**Abstract:** This study aims to determine the needs of teachers in the process of implementing learning in 1st-grade elementary school and to develop e-flashcard vocabulary on I Like Fruits material as a learning media assisted by Heyzine flipbook. This level 1 development research design refers to the development research design described by Sugiyono, which includes research and information gathering, planning, developing the initial form of the product, initial field trials, and revising the main product. The subject of this research is a first-grade English teacher. The object of development is vocabulary e-flashcards for first-grade students of SD Negeri 2 Mas. The validation was conducted by an expert who is a lecturer at the Institute of Technology and Education, Markandeya Bali, and an English teacher at SD Negeri 2 Mas. The validation level of vocabulary e-flashcards was analyzed with descriptive statistics using a Likert scale. The results obtained on the e-flashcard vocabulary material I Like Fruits grade one elementary school obtained very valid results with an average score of 4.91. The results of the first expert assessment amounted to 4.85, the results of the second expert assessment amounted to 4.96, and the results of the third expert assessment amounted to 4.96 from the predetermined interval scale. The implications of this study focus on the use of e-flashcard learning media to improve efficiency and adaptability, thus increasing the effectiveness of the e-flashcard learning method.

**Abstrak:** Penelitian ini bertujuan untuk mengetahui kebutuhan guru dalam proses pelaksanaan pembelajaran di kelas 1 SD dan mengembangkan kosakata e-flashcard pada materi I Like Fruits sebagai media pembelajaran berbantuan heyzine flipbook. Desain penelitian pengembangan level 1 ini mengacu pada desain penelitian pengembangan yang dijelaskan oleh Sugiyono meliputi penelitian dan pengumpulan informasi, perencanaan, pengembangan bentuk awal produk, uji coba lapangan awal, dan revisi produk utama. Ssubjek penelitian ini adalah seorang guru bahasa Inggris kelas satu. Objek pengembangannya adalah kosakata e-flashcard untuk siswa kelas satu SD Negeri 2 Mas. Validasi dilakukan oleh ahli yang merupakan dosen Institut Teknologi dan Pendidikan Markandeya Bali dan guru Bahasa Inggris SD Negeri 2 Mas. Tingkat validasi kosakata e-flashcards dianalisis dengan statistik deskriptif menggunakan skala likert. Hasil yang diperoleh pada e-flashcard kosakata materi I Like Fruits kelas satu SD memperoleh hasil sangat valid dengan rata-rata skor 4,91. Hasil penilaian ahli pertama sebesar 4,85, hasil penilaian ahli kedua sebesar 4,96, dan hasil penilaian ahli ketiga sebesar 4,96 dari skala interval yang telah ditentukan. Implikasi dari penelitian ini berfokus pada penggunaan media pembelajaran e-flashcard untuk meningkatkan efisiensi dan kemampuan beradaptasi, sehingga meningkatkan efektivitas metode pembelajaran e-flashcard.

## A. Introduction

Education and the teaching and learning process never separate the development of learning problems. Learning is essentially a process of interaction between students and learning media. Learning resources must include satisfactory content that improves students' programming skills and aspects that influence learning, namely the development of learning resources that must be integrated with technological developments (Adabia, 2022).

With the development of science and technology, Indonesian teachers are required to raise students' level of thinking to a higher level. One of the things teachers can do to improve the quality of their students is to use learning media to support the teaching and learning process, and learning media is an important part of the learning process. According to (Fauzia, 2022), learning media are tools, methods, and techniques used to help convey messages during the learning process. Therefore, learning media is a source of learning, be it people, objects, or events that make students more likely to acquire knowledge and skills.

Learning media can help students understand the material more easily. If learning media is developed to improve students' understanding of learning concepts, then learning media is developed to overcome learning difficulties. It cannot be denied that the development of learning media is significant for learning. Because the more interesting the learning media used, the more students will be interested in that learning media.

Ideally, teachers should have the skills to develop learning media, but many teachers still have not mastered it. Hence, there are still many traditionalists who implement learning. The effect of traditional learning is that the teacher is more dominant, and the students are less active because they usually listen. Apart from that, the learning they do is less interesting because the learning is less varied.

Chaulia (2022) explained that the Merdeka Curriculum makes English a mandatory subject in elementary schools. The aim is to introduce students to English at an early age and prepare them to face global challenges in the future. The most important thing is introducing English to elementary school students, especially learning vocabulary.

Vocabulary is a collection of words used in a language or area. Vocabulary plays a significant role in mastering English. Mastery of vocabulary makes it easier for students to find the right words according to the context and write effective and efficient English sentences. English vocabulary is closely related to developing speaking, listening, reading, and writing skills. Therefore, students must learn vocabulary regularly and effectively (Yuliza et al., 2022).

Based on observations and interviews with first-grade teachers at SD Negeri 2 Mas, the school only relies on picture media in Student Worksheet books (LKS) in implementing the learning process. In this book, the material and explanations are not provided in full, which makes it difficult for some students to understand the existing material and causes students to get bored while learning. The interview also said that first-grade elementary school students preferred to be given image media on a projector. Therefore, digital learning media is necessary to attract students' interest in learning so that the learning process becomes more effective and interactive.

In the 21<sup>st</sup> century, the development of technology-based learning media has become an increasingly popular trend in the world of education. In the current digital era, technology offers various tools that can improve the quality and effectiveness of learning (Selvi, 2022).

E-flashcards are technology-based learning media that contain animated images and aim to convey knowledge or information to students (Fauzia, 2022). E-flashcard is a technology-based learning environment that contains images with animations, text, and worksheets for students. E-flashcards or electronic flashcards can be used in various subjects such as mathematics, science, and language. They can be developed using a collection of images that are appropriate to the material or vocabulary being taught. Each e-flashcard can contain a word or concept from the target language (e.g., English) on one side and an e-flashcard image corresponding to the word or concept on the other side. E-flashcards can be used in various learning tasks such as card games, quizzes, and vocabulary and can help students remember and understand material or vocabulary interactively and interestingly (Wangi & Angung, 2021).

The advantages of using e-flashcards are the ease of sending e-flashcard learning media to many recipients, being environmentally friendly compared to paper/hard copy learning media, and making learning easier for students because this learning media is available electronically and is easy to carry. E-flashcard learning media can be developed for various purposes, such as improving student learning outcomes, facilitating learning independence, and enriching student learning experiences (Permata & Surmilasari, 2023).

The English Teacher's Book "*My Next Words*" Merdeka Curriculum for first-grade Elementary School consists of 13 chapters of the material taught in semester one and semester 2. One of the chapters of first-grade elementary school material is "I Like Fruits." This theme focuses on recognizing and learning about different fruits and emphasizes expressions of liking these fruits. The learning material on this topic aims to help students understand the importance of consuming fruit for a healthy diet and, most importantly, to introduce them to new vocabulary related to fruit (SIBI, 2021).

In connection with the description outlined above, researchers provide a solution by developing learning media as e-flashcards with a fruit theme. This learning media will help continue the student learning process, expand students' vocabulary, increase students' intrinsic motivation to learn English and make students more enthusiastic about learning English. Therefore, researchers will develop e-flashcard-based learning media with the help of the Heyzine Flipbook application.

Heyzine Flipbook is an online PDF-to-flipbook conversion platform at no additional cost. It provides an electronic book effect so that each page can be accessed, like opening the pages of a physical book. The advantage of flip book e-modules compared to printed modules is that they do not only contain text or images, which can sometimes make students feel bored and difficult to understand (Kismawati et al., 2022). Not only that, but (Pratiwi et al., 2023) also said Heyzine Flipbook is a platform that allows individuals to create and share flipbooks online. A flipbook is an interactive digital publication format, mimicking the appearance of a physical book and allowing users to navigate content in an instinctive way,

such as by scrolling through pages or clicking on links. Heyzine provides user-friendly design and editing tools to help users create flipbooks easily without requiring special skills in the field of design.

This research offers benefits for teachers and students, including the integration of technology-based learning methods and e-flashcards for vocabulary learning. This improves teachers' digital media skills and allows evaluation of the effectiveness of e-flashcard-based learning media. Students benefit from visual and audio media, engaging and interactive learning experiences, independent learning, and the flexibility to use materials anytime and anywhere with electronic devices.

## B. Method

Research and development methods were used in this research. Research and Development (R&D) is the process of developing and validating educational products (Kusuma, 2018). This type of research is aimed at developing new learning products or media, in this case, e-flashcards assisted by Heyzine Flipbook, to help vocabulary learning for 1st-grade elementary school students.

In this research, Sugiyono applies the development research model. The Sugiyono development research model is a development model that develops and validates education-related products. This process includes analyzing research results related to the product being developed, developing results-based products, conducting field tests, and making modifications to correct deficiencies found in the early stages of field test development.

Research regarding the development of e-flashcard vocabulary on I Like Fruits material for first-grade elementary school as a learning media assisted by Heyzine flipbook developed using an R&D (Research and Development) research design whose development only reaches level 1. This level 1 development research design refers to the development research design presented by Sugiyono (2019). According to Sugiyono, level 1 development research procedures include (1) Research and information collecting, (2) Planning, (3) Developing a preliminary form of the product, (4) Preliminary field testing, and (5) Main product revision.

This research occurred at SD Negeri 2 Mas, located at Jl. Yudistira, Mas, Ubud District, Gianyar Regency, Bali 80582. In this development research, the subjects were English teachers at SD Negeri 2 Mas with the object of English language learning material for phase A or even 1st-grade elementary school and the material "I Like Fruits".

Research and development is the process of developing and validating a product. To develop e-flashcards vocabulary learning media more effectively, a framework of thought is needed. Several steps are used in the research and development of this e-flashcard vocabulary, which can be seen in the figure below.

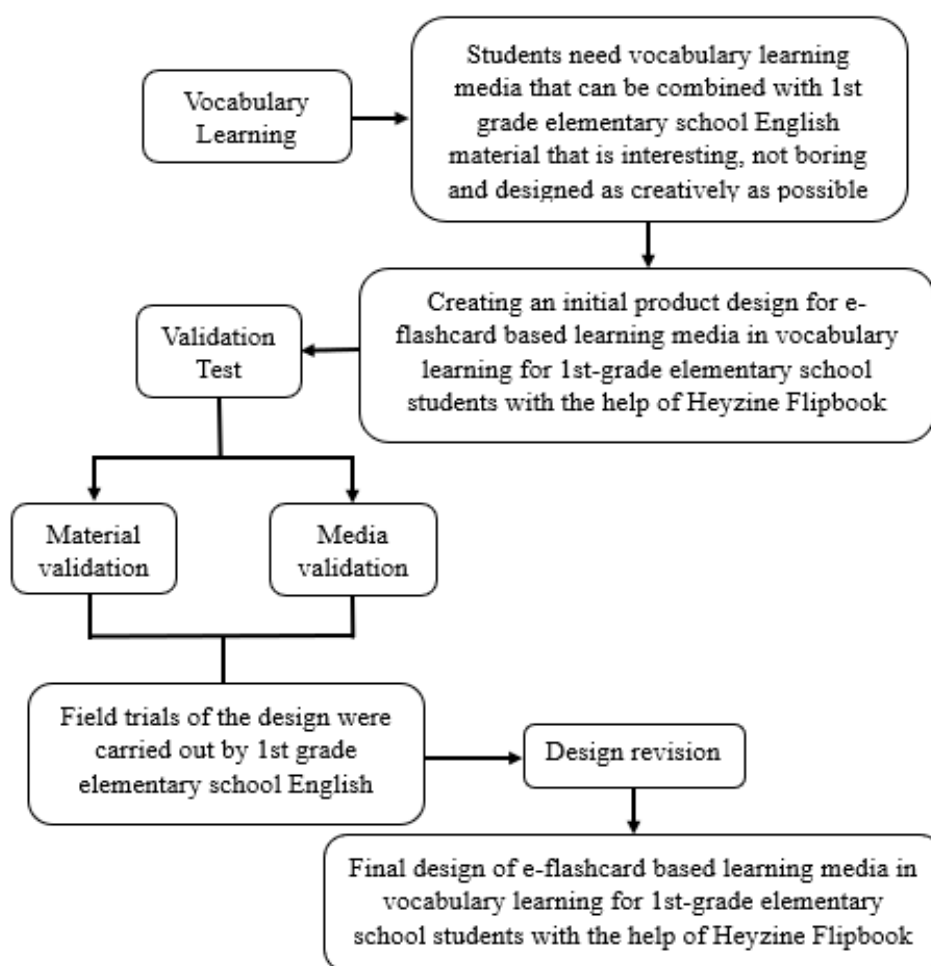


Figure 1. Framework of Thought

In the figure above, it can be explained that students need vocabulary learning media that is appropriate to 1st-grade elementary school English material that is interesting, not boring, and must be designed as creatively as possible. Therefore, an initial product design will be developed for e-flashcard-based learning media in vocabulary learning contained in one of the even semester chapter materials using the Heyzine Flipbook application in the design process. Next, validation tests were carried out, namely material validation and media validation, as well as design trials on 1st-grade elementary school students. After that, media revisions will be carried out, especially if there are suggestions or input from the examiners, and finally, the final or finishing e-flashcard-based learning media in vocabulary learning for 1st-grade elementary school students with the help of Heyzine Flipbook.

The data collection technique is a systematic and standardized process to obtain the necessary information. In this study, researchers used data collection techniques:

- 1) Observation: Sugiyono (2016) argues that observation is a complex process consisting of various biological and psychological processes.
- 2) Interviews: The interview technique is a systematic way to achieve the researcher's objectives in the form of information in the form of verbal statements about objects or events in the past, present, and future (Pujaastawa, 2016).

- 3) Questionnaires: A questionnaire is a data collection technique that involves giving respondents a series of questions or written statements to respond to. Questionnaires are an effective data collection technique when the researcher knows exactly the variables being measured and knows what is expected from the respondent (Sugiyono, 2016). The data collection technique using a questionnaire aims to measure the effectiveness of vocabulary learning through e-flashcard-based learning. This also helps identify challenges and strategies to be able to develop strategies or solutions to increase the effectiveness of using e-flashcards in vocabulary learning. There are three types of research instruments used to measure the validity of a material or media that will be used in certain activities or research, including:
  - a) Material Expert Validation Questionnaire
  - b) Media Expert Validation Questionnaire
  - c) Teacher Response Questionnaire
- 4) Documentation: For technical users, documentation is useful as a complement to data collection through observation and interviews. Documentation is a record of past events. The documentation method refers to a set of files in the form of notes, transcripts, books, newspapers, journals, treatises, photos, videos, agendas, etc., which are obtained for use in research and can be used as a basic basis and main tool for research in the field (Kawasati 2019).

Qualitative data analysis is a data analysis process that does not involve numbers or shapes. Qualitative data analysis techniques are used to analyze qualitative data in text form, such as documents, interviews, or observations. In qualitative research, researchers collect data from various sources and use various methods. The process of collecting data using qualitative data analysis techniques is done through notes, document reviews, interviews, surveys, or observations (Abdul, 2020). Qualitative analysis aims to record assessment results from learning material validation questionnaires and learning media validation questionnaires based on media experts' and content experts' assessments of the study material. Therefore, the results of this analysis can be used as a basis for revising learning media products.

Qualitative data analysis involves the process of organizing, processing, and interpreting non-numerical data to produce relevant information or trends in research (Rijali, 2019). Qualitative data analysis is intended to analyze the results of material validation and e-flashcard media validation. Qualitative data analysis is also used to analyze teacher responses. This is to determine the validity, practicality, and effectiveness of the e-flashcard produced.

- 1) Interview Data Analysis

The analysis of interview data uses qualitative data so that it can be seen directly in terms of the need for learning materials to be developed and provided to English teachers.

- 2) Analysis of Validation Questionnaire Data and Teacher Responses

The feasibility of learning media was assessed using the results of the questionnaire data provided using a Likert scale. In development research, the Likert scale is used to develop tools that will be used to measure the attitudes, perceptions, and opinions of a

person or group of people about the potential and problems of a person, object, product design, product manufacturing process and products that have been developed or created. The validation questionnaire and teacher responses have a Likert scale with a reference scale of 1 to 5 (Sugiyono 2019). The Likert scale uses criteria as in Table 1 below.

**Table 1.** Likert Scale Criteria

Score	Categories
1	Highly Invalid
2	Invalid
3	Moderate
4	Valid
5	Highly Valid

The results of the validation questionnaire and teacher responses are converted into a normal five-scale reference assessment table, as in the example of Table 3.6 below (Nurkencana, 2006).

**Table 2.** Five Scale Reference Assessments

No	Score	Categories
1	$x \geq Mi + 1,5 Sdi$	Highly Valid
2	$Mi + 0,5 Sdi \leq x < Mi + 1,5 Sdi$	Valid
3	$Mi - 0,5 Sdi \leq x < Mi + 0,5 Sdi$	Moderate
4	$Mi - 1,5 Sdi \leq x < Mi - 0,5 Sdi$	Invalid
5	$x < Mi - 1,5 Sdi$	Highly Invalid

Information:

- X : The average score of expert validation
- Mi : (ideal highest score + ideal lowest score)  $\times \frac{1}{2}$
- Sdi : (ideal highest score + ideal lowest score)  $\times \frac{1}{6}$
- Mi : Mean ideal
- Sdi : Ideal Standard Deviation

## C. Result and Discussion

### Result

#### 1. Research and Information Collecting

The first step the researchers took in conducting the development of e-flashcard vocabulary on I Like Fruits material for first-grade elementary school as a learning media assisted by heyzine flipbook is to analyze the learning media needs of teachers and students in the English learning process in first-grade elementary school. The researchers analyzed the learning media needs of teachers and students in implementing the learning process at school using interviews and classroom observations. Interviews and observations were carried out at one of the elementary schools in Mas Village. Interviews were conducted to

ascertain teachers' learning media needs in carrying out the learning process so that researchers can produce products that suit the needs of teachers and students.

Based on the results of the needs interview, there are several points of conclusion, including (1) Teachers only use Student Worksheets (*LKS*) according to the Merdeka curriculum as the main learning source, without other additional handbooks, (2) During English learning, it is carried out through lecture, discussion, and assignment methods to achieve learning competency. (3) The process of learning English shows that students have high enthusiasm. However, the main difficulty teachers face is arranging for students to sit in an orderly manner, which often disrupts learning progress. To overcome this obstacle, the teacher always invites students to sit back in their chairs, even though the students will go back to playing around. (4) The resource person stated that the learning media used was limited to YouTube videos with learning material from the Merdeka curriculum worksheet book. (5) The advantage of the learning media used today is that it can be accessed anytime and anywhere for free. Meanwhile, the disadvantage is that advertising distractions can break students' concentration. (6) The current learning media is not enough to meet students' learning needs because students often use YouTube videos when studying at home. (7) For the material in unit 13, "I Like Fruits," the teacher said he had not thought about what learning media to use. However, if the researchers made e-flashcards with interesting sounds and pictures, it could make it easier for students to learn about fruit. Apart from that, the teacher also requested that this learning media be accessed offline and can also be printed to avoid the projector being used or damaged.

## 2. Planning

From the interview results above, the researchers developed a learning media in the form of vocabulary e-flashcards that are based on the material and learning outcomes of the material "I Like Fruits." In addition, researchers also prepare e-flashcards in PDF form so they can be accessed offline and easily printed when needed. It is hoped that developing e-flashcard vocabulary learning media for first-grade elementary school students can help in the learning process and be useful for students and teachers.

## 3. Developing a Preliminary form of the Product

The prototype is a crucial stage because the core of development research lies at this stage, namely the prototype of the development of English Learning Media assisted by Heyzine Flipbook. This development prototype makes e-flashcard material I Like Fruits for 1st-grade elementary school, which is divided into 3 (three) parts including:

### a) Cover of e-flashcard

The product cover, created using Canva, features cute fruit illustrations, the learning material title, target class information for Elementary School, author identity, uncomplicated fonts, and a light blue color design, attracting students' interest in learning.

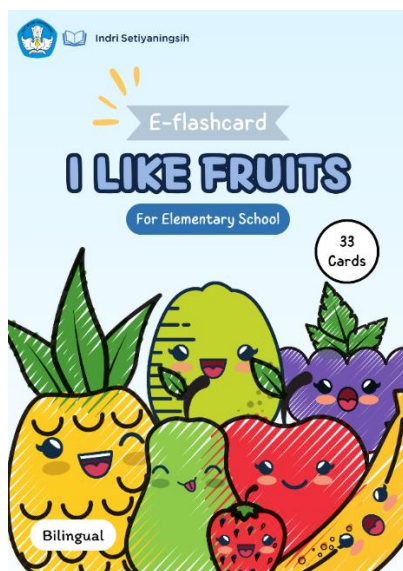


Figure 2. Cover of E-Flashcard

b) Content of e-flashcard

The e-flashcard is a list of common fruits, including apples, avocados, bananas, mango, dragon fruit, and watermelon, designed for elementary school children. It features bright colors, relevant illustrations, large, clear fonts, and audio narratives to stimulate interest in learning. The design is simple, funny, and attractive, with the sound of "Jessie" added to the e-flashcards using the Capcut application and the Heyzine Flipbook application. The following are several examples of e-flashcard product results:

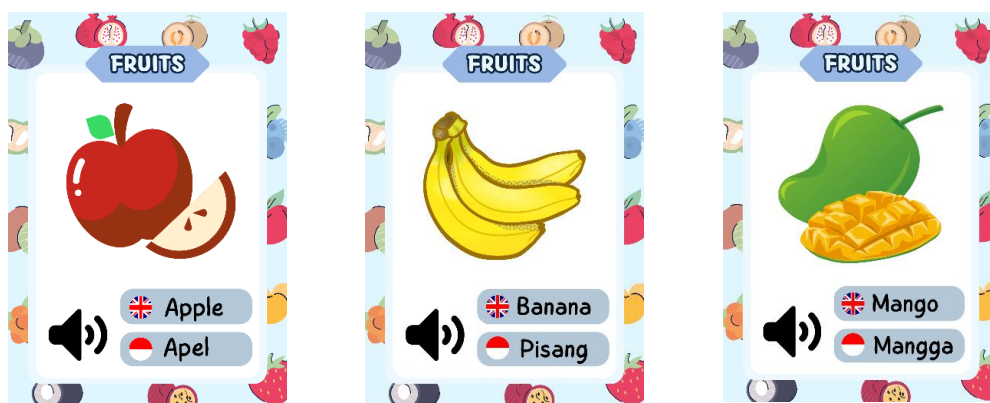


Figure 3. Content of E-Flashcard

c) Closing

The e-flashcard's closing features quizzes to measure students' understanding of I Like Fruits, encourage critical thinking, and provide valuable feedback for teachers and students, helping identify strengths and weaknesses.



Figure 4. Closing of E-Flashcard

The e-flashcard results from the product description above are as follows: [https://bit.ly/I\\_Like\\_Fruits](https://bit.ly/I_Like_Fruits). These e-flashcards are very flexible and can be accessed via various devices such as smartphones, computers, and tablets, making them suitable for use in various learning situations, both in class and at home. Apart from that, this learning media is free and does not contain advertisements that will disturb students' concentration. However, this media can only be accessed via the internet or online. If the teacher wants to use it offline, the researcher will provide a PDF file, and the learning media file can be printed.

#### 4. Preliminary Field Testing

In the first step, the product created by the researcher is validated by experts. This validation aims to test the quality of e-flashcard vocabulary learning media on I Like Fruits material for 1st-grade elementary school with the help of Heyzine Flipbook made by the researcher. For the validation instrument, the researcher used the theory from "Uwes Anis Chaeruman (2015)," which was modified from "*Pusat Teknologi Informasi dan Komunikasi Pendidikan Kementerian Pendidikan dan Kebudayaan* " and based on needs analysis. The experts who validated the learning media in the form of e-flashcard vocabulary learning media on I Like Fruits material for 1st-grade elementary school with the help of Heyzine Flipbook consisted of 3 people, including:

1. First, the validator is Mrs. Luh Made Dwi Wedayanthi, S.Pd., M.Pd. The first validator was one of the English Language Education lecturers at the Institute of Technology and Education Markandeya Bali. The validator teaches courses related to learning media, including TEYL and Micro Teaching. She has also published several scientific articles entitled "*Pengembangan Buku Panduan Homeschooling Berbantuan Metode Montessori untuk Pengenalan Bahasa Inggris Dasar pada Anak (2022)*", "*Developing Bilingual Student Worksheet for Seventh-grade Students at SMP N 3 Tembuku (2022)*", and "*Pengembangan Modul Pembelajaran Berbasis Cooperative Learning Pada Matakuliah English Morphology di STKIP Suar Bangli (2018)*". This e-flashcard learning media was validated on March 25, 2024.
2. The second validator was Mrs. Ni Made Ayu Purnami, S.Pd., M.Pd. The second validator is one of the English Language Education lecturers at the Institute of Technology and Education Markandeya Bali. The validator teaches courses related to learning media, namely the Intensive English Course. She has also published a scientific article entitled "*Pengembangan Buku Panduan Homeschooling Berbantuan Metode Montessori untuk Pengenalan Bahasa Inggris Dasar pada Anak (2022)*". Learning media was validated on March 25, 2024.
3. The third validator is Ni Komang Trisna Wahyuni, S.Pd. This third validator is an English teacher at SD Negeri 2 Mas who has just completed a Bachelor of English Education at Mahasaraswati University Denpasar. She has experience creating and using learning media while still in college. Learning media was validated on March 26, 2024.

**Table 3.** Expert Validation Data

No	Assessment Aspect	Indicator	Validator			Average
			1	2	3	
1	Material	The content of the material is correct	5	5	5	5,0
		Free from conceptual errors	5	5	5	5,0
		Contemporary and up-to-date material	5	5	5	5,0
		Coverage and depth of material	5	5	5	5,0
		Adequacy of the references used	4	5	5	4,6
2	Instructional Design	Suitability of media delivery strategy to the characteristics of the relevant audience (students)	4	4	5	4,3
		The accuracy of the media delivery strategy allows for ease and speed of understanding and mastery of material, concepts, or skills	5	5	5	5,0
		The level of possibility encourages students' critical thinking and problem-solving abilities	5	5	5	5,0
		The level of contextuality with application in real life that suits the characteristics of the relevant audience (students)	4	5	5	4,6

		Relative advantage: the accuracy of media selection compared to other media	5	5	5	5,0
3	Learning Communication Media	Clarity of narrative, audio, video, animation, simulation, and suitability of language and communication style to audience characteristics	5	5	4	4,6
		Accuracy in selecting narration, audio, video, animation, and simulation with the aim and content of the material	5	5	5	5,0
		The attractiveness of packaging multimedia learning	5	5	5	5,0
		The accuracy and attractiveness of visual media as a whole	5	5	5	5,0
4		Usage	Ease of use	5	5	5
	The possible level of student interest and motivation when used in learning both individually and in the classroom		5	5	5	5,0
	It can be used for individual study by students and teaching aids for teachers		5	5	5	5,0
	The level of possibility encourages students' critical thinking and problem-solving abilities		5	5	5	5,0
	The level of contextuality with application in real life that suits the characteristics of the relevant audience (students).		4	5	5	4,6
5	Based on Needs Analysis		The accuracy of the selection of interesting images	5	5	5
		Clear audio narration accuracy	5	5	5	5,0
		Media can be accessed online or offline	5	5	5	5,0
		E-flashcard media can be printed	5	5	5	5,0
		Free learning media	5	5	5	5,0
		There are no advertising distractions in learning media that disturb students' learning concentration	5	5	5	5,0
		Media can be used anytime and anywhere	5	5	5	5,0
<b>Total score</b>			<b>126</b>	<b>129</b>	<b>129</b>	<b>127,7</b>
<b>Average score</b>			<b>4,85</b>	<b>4,96</b>	<b>4,96</b>	<b>4,91</b>

Based on the results of data validation development of e-flashcard vocabulary on I Like Fruits material for first-grade elementary school, as a learning media assisted by the heyzine flipbook above can be explained as from the first validator by Luh Made Dwi Wedayanthi, S.Pd., M.Pd with an average value of 4.85 based on the Likert scale formula, this value obtained a score in the "Highly Valid" category with appropriate information without revision. The second validator was Ni Made Ayu Purnami, S.Pd., M.Pd with an average score of 4.96 based on the Likert scale formula, obtaining a score in the "Highly Valid" category with slight revisions, namely replacing the "Rambutan" and "Strawberry"

images with brighter and more realistic images. Finally, the results of the third validator by Ni Komang Trisna Wahyuni, S.Pd, with an average score of 4.96 based on the Likert scale formula, obtained a score in the "Highly Valid" category with appropriate information without revision (Wedayanthi, 2018).

## 5. Main Product Revision

After carrying out the field trial and product validation stages, there were slight revisions, namely replacing the "Rambutan" and "Strawberry" images with brighter and more realistic images. Below are pictures before and after revision:



Figure 5. Before and After Revision

## Discussion

Based on the results of observations and interviews with English teachers, researchers know that one of the needs of teachers in the learning process at school is learning media. The learning media that teachers need is learning media that can attract students' motivation and interest in learning. Therefore, the researchers developed e-flashcard vocabulary on I Like Fruits material for first-grade elementary school as a learning media assisted by a heyzine flipbook.

Wangi & Angung (2021) said that E-flashcards are a technology-based learning environment that contains animated images, text, and student worksheets that are appropriate to the material or vocabulary being taught. These e-flashcards can be accessed

anytime and anywhere, making it a comfortable and flexible learning medium for students. The research of [Kismawati et al \(2022\)](#) concluded that Heyzine Flipbook-based educational resources are feasible and have been widely used in teaching English language learning. The results of the e-flashcard product assisted by Heyzine Flipbook, which researchers created, certainly support and follow the explanation from the relevant research. What supports this is that teachers and students received e-flashcards assisted by Heyzine Flipbook, which can be accessed easily at school or home.

Based on the results of data validation by the validator, it can be explained based on the Likert scale formula as from the first validator by Luh Made Dwi Wedayanthi, S.Pd., M.Pd with an average value of 4.85, this value obtained a score in the "Highly Valid" category. The second validator was Ni Made Ayu Purnami, S.Pd., M.Pd, with an average score of 4.96 and received a score in the "Highly Valid" category. Finally, the results from the third validator were Ni Komang Trisna Wahyuni, S.Pd with an average score of 4.96, and obtained a score in the "Highly Valid" category. From this accuracy, the researchers can conclude that based on the Likert scale formula, the average value of the overall validation results is 4.91 and obtains the "Highly Valid" category ([Wedayanthi & Purnami, 2021](#)).

Therefore, the results of the development of e-flashcard vocabulary on I Like Fruits material for first-grade elementary school as a learning media assisted by heyzine flipbook can help teachers more easily convey knowledge following learning materials and students more easily understand the material and attract students' interest in learning. The researchers use e-flashcard vocabulary learning media equipped with animated images and audio following the material being taught to provide an interesting, fun learning experience and encourage students' ability to think critically. Based on the explanation of the results of the three experts, it can be stated that the results of the development of e-flashcard vocabulary on I Like Fruits material for first-grade elementary school as a learning media assisted by heyzine flipbook are "feasible" to be used as learning media and can help in the learning process and can be useful for students and teachers.

#### **D. Conclusion**

The learning media produced in this development research is learning media in the form of e-flashcard vocabulary. The development of this e-flashcard learning media requires several stages, starting from analyzing the needs of teachers regarding the need for learning media in the learning process, then analyzing the problems encountered to get alternative solutions, and then developing an e-flashcard prototype. After that, it was validated by three media experts, followed by a product revision of the previous media expert validation results.

Learning Media is a means of conveying information that is created and used, such as learning theories, which can encourage the learning process and various learning media assistance. This e-flashcard learning media can help attract students' interest in the learning process. The implications of this research focus on the use of E-flashcard learning media to increase learning efficiency and adaptability, thereby increasing the effectiveness of the E-flashcard learning method.

Research into the development of e-flashcard vocabulary learning media using Heyzine Flipbook has been successful. E-flashcards are designed to attract student interest, encourage critical thinking, and facilitate understanding. Even though experts have validated it, it is ready to be used as a learning medium in grade 1 elementary school and can be adapted to the current curriculum. These findings indicate that further research and extensive trials are needed to maximize the results of this study.

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