GOLDEN AGE
Jurnal Ilmiah Tumbuh Kembang Anak Usia Dini

Online ISSN: 2502-3519 Print ISSN: 2798-3234
JGA, Vol. 7 (3), September 2022 (133-142)
DOI: https://doi.org/10.14421/jga.2022.73-03

Ivocard Development As a Media For Learning English Vocabulary for Children Aged 4-5 Years

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Received: 25 07 2022 :: Revised: 25 09 2022 :: Accepted: 30 09 2022

Abstract

Purpose – English is an investment in the future that can increase self-potential; therefore, early childhood needs to know English. The introduction of English in early childhood can use learning media. This study aims to develop iVocard media as a medium for learning English vocabulary in early childhood 4-5 years.
Design/methods/approach – This study uses Research and Development, with the subjects of this research being TK A students at BPK PENABUR Cimahi. Data was collected using observation, documentation, and questionnaire methods using a Likert scale of 1-5, then analyzed using descriptive analysis.
Findings – The results showed that the iVocard media was in the "very appropriate" category in the material and media validation test. In both validation tests, there are a few suggestions for improvements to the iVocard learning media. Thus, the iVocard learning media can be used in the next stage, the trial stage.
Research implications/limitations – The feasibility of iVocard learning media as a means to learn and improve English vocabulary for children aged 4-5 years.
Practical implications – This research implies that English vocabulary learning media in early childhood can use card media, such as iVocard, to make learning more exciting and fun for children.
Originality/value – This study uses learning media from iVocard, which can be used for learning in early childhood, especially for children aged 4-5 years.

Keywords: Learning media; English; Early childhood

Paper type: Research paper

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Publisher: Islamic Early Childhood Education Study Program,
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Introduction

According to Law No. 20 of 2003, which regulates the National Education System states, Early Childhood Education (ECE) is a coaching effort aimed at children from birth to the age of six which is carried out through educational stimulation to help physical and spiritual growth and development so that children have learning readiness in entering further education. Therefore, early childhood education is fundamental and has an important role in children getting appropriate education and stimulus because it can affect their development in the next period (Nicklaus, 2016, 2017). Child development is related to progressive, coherent, and orderly qualitative and quantitative changes (Amerzadeh et al., 2022; Puxeddu et al., 2020). Child development refers to the increasing complexity of changing from something very simple to something more detailed and complicated, in which this process includes regular progress along successive sequences (Hinchcliffe, 2022; Lemos & Almeida, 2019).

Early childhood is a golden period (Sudarmilah et al., 2021; Yap et al., 2022). According to Rishantie, et al. (2018), early age is a critical period in the growth and development of children who need proper stimulation to develop all aspects. Regular stimulation can help children develop all aspects of growth to the fullest, which will certainly benefit the child's future life (Fang et al., 2022). Moreover, these golden periods only occur once in human life (Dankyi & Huang, 2022; De Bartolo et al., 2022). Therefore it can be concluded that early childhood is a very important period for children because, during this critical period, the aspects of child development, including cognitive, language, social, emotional, moral, and motor skills, can be developed to the fullest. These aspects do not develop separately but experience development as a whole and occur rapidly.

According to some experts, language is an inborn ability, and some argue that language skills are influenced by internal and external factors (Isna, 2019; Kojima et al., 2019; Peter et al., 2019). Navitis' theory argues that language ability is an inborn ability and is owned by a person as an initial ability that is obtained biologically, while Bandura argues that language ability can be developed by imitating other people (Arsal et al., 2021; Chen & Wu, 2016; Suhartining et al., 2022).

Language has a very important role in human life as a social communication tool. However, communication is limited due to language differences between countries. According to Arumsari et al. (2017), English is an agreed medium for communicating with one another. English has also been widely studied in Indonesia and is even included in the education curriculum in early childhood education, basic education, and tertiary education, so it is important for people to learn and master English, especially in this era of globalization, to keep abreast of the times. English is an international language that has dominated communication worldwide (Harwati, 2012; Liyana & Kurniawan, 2019).

Learning English at the ECE level can be started by learning vocabulary, listening, speaking, and writing from an early age so that later you can master a lot of English vocabulary. Appropriate strategies and approaches are needed in learning (Liyana & Kurniawan, 2019). Learning English in early childhood can also utilize supporting media such as toys and activities such as movement and songs to be more interesting and meaningful for children (Herdyastika & Kuriawan, 2021).

Darwanto (2019) suggests that learning English at school can be found with several learning challenges, for example, the low motivation of children in learning English, children who are less active in learning in class, and the lack of teaching materials in learning. The existence of this problem, researchers, realize that learning media is important to overcome the problems above. The learning media users are expected to make teaching and learning activities more interesting, provide motivation for children to learn, and be more active in teaching and learning activities.

Based on observations made by researchers in TK A class at BPK Penabur Cimahi, it was found that the children's ability to master English vocabulary was still relatively low. It can be seen in children who cannot pronounce and do not even know English vocabulary. The cause of this problem is that there is no interesting learning media for children. Educators still use learning

media from ordinary paper, easily damaged and not durable. Sometimes they only use blackboards and textbooks. It is what makes children feel bored with monotonous learning media. As a result, children do not pay full attention to the explanation of the material provided by the teacher. Therefore, the researcher proposes innovations in learning media so that children are interested in English vocabulary so that it will be easier for them to recognize and master English vocabulary.

Research conducted by Apriliani et al. (2021) entitled "Improving Early Childhood Language Politeness Through Interactive Learning Media Javanese Culture" resulted in the finding that interactive learning media has been validated with a percentage result of 92.5% in the good category and trials group, an increase of 28.9% was found. Then, Susantini & Kristiantari's (2021) research examines interactive multimedia-based flashcard media for introducing English vocabulary in early childhood. The results of his research showed that the learning media used obtained a score of 91.3%. Both research results show that using instructional media in learning can help young children develop their abilities more optimally. Because of that, researchers developed an iVocard learning media with the hope that this learning media can help develop English vocabulary for early childhood 4-5 years. In this study, researchers identified a problem from observation and interviews with school officials: low mastery of English vocabulary in early childhood. Therefore, the researcher developed a teaching media to develop children's English vocabulary using the play-while-learning method. Teaching media is expected to attract children's learning interest, and children can further develop their English vocabulary skills.

Methods

This research uses development research to develop an effective product to be implemented in schools. The subjects in this study were validity trial subjects for iVocard learning media consisting of teaching media expert lecturers and linguist lecturers. The subject of this expert trial has academic criteria. An expert lecturer in learning media is a lecturer in media courses, and a linguist lecturer is a language lecturer with teaching experience. The objects in this study were children aged 4-5 years with the research location in class TK A BPK Penebar Cimahi. Data collection techniques used are observation, documentation, and questionnaires. Observation activities evaluate early childhood language development by observing the child's behavior toward the practical aspects.

Furthermore, the documentation that was carried out was documenting the teaching and learning activities of English lessons for early childhood aged 4-5 years in group A. The questionnaire consisted of a validation questionnaire aimed at media experts and linguists to determine the feasibility of the product. The questionnaire uses a Likert scale with five scales, namely: (1) very not appropriate, (2) not appropriate, (3) less appropriate, (4) appropriate, and (5) very appropriate. Then, the analysis technique used is descriptive analysis to analyze the data that has been collected. However, before being analyzed, the average score is calculated using the following formula:

$$X=\frac{\Sigma X}{N}$$

Description:

X = average score for each component

ΣX = total score

N = number of indicators assessed

Data were analyzed descriptively in the form of assessment scores from questionnaires given to media and material experts. The scores in the questionnaire are then sought for the average of each component which is then converted into qualitative data with a scale, according to the following table 1.

Table 1. Guidelines for Conversion

Score	Range	Category
5	X > 4,08	Perfect fit
4	3,36 < X ≤ 4,08	In accordance
3	2,64 < X ≤ 3,36	Not suitable
2	1,92 < X ≤ 2,64	It is not in accordance
1	X ≤ 1,92	Very inappropriate

Learning Media Development Method

The ADDIE development model uses the development model, which consists of 5 stages: analysis, design, development, implementation, and evaluation (Maryanti & Kurniawan, 2016). This research design is expected to produce or develop a product.

Figure 1. Steps of the ADDIE Development Model

The following is an explanation of the stages of the model made: a)Analysis and identification of needs are carried out to determine the fundamental problems faced. The initial analysis produces an overview of expectations, facts that occur, and alternative solutions to basic problems, b)Design. The results of the previous analytical activities serve as a basis for determining how the media and research will be designed. d)Development. Based on the draft trainer module design obtained, then proceed with the development stage. The development stage is the main process of producing a product. Components and circuit designs that have been designed are then assembled into products. e)Implementation is the media trial stage, and the final product is obtained in learning media. f)Evaluation. The data obtained at the implementation stage were analyzed to see the suitability of the material and the achievement of the objectives of developing learning media.

Result and Analysis

Analysis

The first stage in the ADDIE development model is analysis. At this stage, the researcher examines the need to develop iVocard learning media. The needs analysis in the ADDIE model is grouped into two parts: an analysis of system requirements and user needs (Arianti et al., 2020). Analysis of the iVocard learning media development system's needs using the Canva application's help. Analysis of user needs, following the purpose of using cards at the Kindergarten level school, the content provided in the iVocard learning media is adapted to the characteristics of early childhood where the cards are made attractive and can still develop children's language skills. User needs were analyzed from researchers' observations at the TKK BPK PENABUR Cimahi. The results of the analysis stage are that there are no learning media in the form of games used in learning English. The learning media must be attractive with bright colors, the writing on the learning media must be clear, the media contains evaluation material for the teacher to assess, and the learning media can develop children's abilities. The media consists of cards that discuss animals. The design of learning media models is based on regulations regarding indicators of achievement of competence in early childhood 4-5 years. The following are the indicators table 2 and table 3.

Table 2. Indicators for Attaining Language Comprehension Competence Age 4-5 Years

Basic Competency	Indicators
Understanding receptive language	Retell what is heard with more vocabulary
Demonstrate receptive language skills	Carry out more complex commands according to the rules submitted
Understanding expressive language	Opinions with simple sentences in communicating with children or adults
Demonstrate expressive language skills	Demonstrate happy reading behavior towards books that are recognized

Table 3. Map of the Subject

Matter	Content	Explanation
Understanding receptive language	Recognizing, imitating, and mentioning	Types of pictures and simple English vocabulary include names of fruits, vegetables, and so on.
Demonstrating receptive language skills	Recognizing, imitating, and mentioning	The types of pictures and English vocabulary that can be done are mentioning or guessing English vocabulary, such as the names of fruits, vegetables, and so on.
Understanding expressive language	Disclose	Children can express what is conveyed by the teacher
Show expressive language skills	Disclose	Children can guess or reveal what is behind the English vocabulary cards

Design

The second stage is the research design. At this stage, the researchers designed the forms and work processes of the iVocard learning media. The following is a simulation of work processes and user interaction, and learning media:

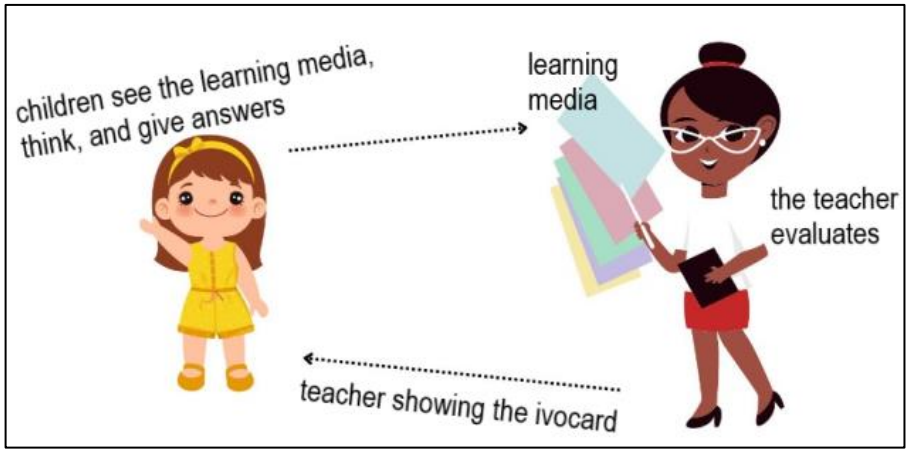

Figure 2. Work Process Simulation

Furthermore, after designing a simulation of the iVocard work process, the researchers designed the design of the iVocard. The size of the card is 10 cm x 13 cm, with the aim that it can be seen clearly but is still easy to hold. One set of cards consists of 14 letters: A, B, C, D, F, G, H, L, M, O, P, R, S, and W. The following designs are designed:

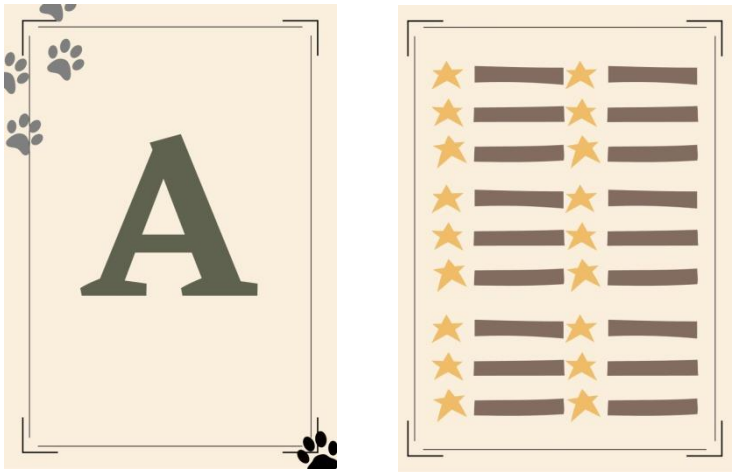

Figure 3. iVocard design

The front card design has large printed letters to make it easy for children to see. The card's color is bright, and the letters contrast so that it is easily seen. There are a few ornaments for aesthetics, but they are not made too prominent and adapted to the theme taken. While the design of the card is on the back, there is a list according to the topic (for example, the topic of animals, and then the list contains the names of animals) so that the teacher can evaluate.

Development

Next, the third stage is development. It needs analysis user. Then the learning media enters the development stage. The following are the results of the development of iVocard learning media.


F
Fox
Fish
Frog
Ferret
Flea
Fly
G
Giraffe
Goat
Gecko
Goose
Gorilla
Grasshopper
H
Horse
Hamster
Hedgehog
Hyena
Hawk
Hippopotamus
L
Lion
Leopard
Llama
Lizard
Ladybug
Lobster
M
Mouse
Monkey
Marmot
Moose
Moth
Mosquito
O
Orang Utan
Octopus
Owl
Otter
Ox
Ostrich
P
Pig
Panther
Puma
Panda
Polar Bear
Peacock
Penguin
Piranha
Porcupine
R
Rabbit
Rat
Raccoon
Reindeer
Rhinoceros
Red Panda

Figure 3. iVocard development design

Data Validation

Then, after the design stage is complete, design validation is needed to assess the product development design model that has been made. Design validation is an assessment by media experts and linguists. The following are the results of the validation of the design model:

Table 4. Validation Results

Aspect	Score	
	Material Expert	**Media Expert**
Quality of content and objectives	58	54
Technical quality	99	87
Instructional quality	29	25
Total score	186	166
Average score	4,65	4,15
Range of mean score	X > 4,08	X > 4,08
Category score	Very Appropriate	Very Appropriate

Source: Data processed, 2022

The validation of iVocard learning media is carried out by media experts and material experts by lecturers with backgrounds relevant to the material being developed. The aim is to get suggestions, criticisms, and information so that the media created can be developed with even better quality, both in terms of quality of content and objectives, technical quality, and instructional quality.

The material expert performs one-time validation. Based on the data, of the 40 question items, the material experts gave a score of 186 or a percentage of 93%. The mean score for material experts is 4.65, included in the "very appropriate" category, so it can be concluded that the developed iVocard learning media deserves to be implemented and tested as a means to improve the ability to read English vocabulary in children aged 4-5 years at Kindergarten B School Laboratory of Satya Wacana Christian University, Salatiga.

Then, just like the material expert, the media expert also conducts one-time validation. There are 40 question items; of these 40 items, media experts give a 166 or 83% score. The average score for media experts is 4.15, which is included in the "very appropriate" category. It means that the designed iVocard learning media is suitable for use and testing as a learning tool to increase English vocabulary in children aged 4-5 years at Kindergarten B School Laboratory of Satya Wacana Christian University, Salatiga.

Discussion

The most sensitive period in a person's life is the golden age, during which the growth and development of children are growing rapidly. Children need to be taught how to speak properly and correctly because this ability is very useful for communicating with their environment (Montessori, 1991). Therefore, it is the right choice if English is introduced to children during the golden age, considering that English is a foreign language that has become a necessity in today's era. Early age is the age of playing for children, so the right approach is needed so that the learning process continues to give meaning but does not burden children. The methods and techniques should be selected and adapted to achieve the abilities.

Concerning methods and techniques for developing children's English, innovative learning media can be used to support this development. Learning media is a tool used to assist in learning and teaching activities. This media can help provide concrete experiences, motivate and generate interest in learning (Falahudin, 2014). Media for early childhood can be as follows: (1) visual media that can be seen, audio media that contains messages in auditive form, and audio-visual media, which is a combination of audio and visual media (Zaman & Eliyawati, 2010). The main function of learning media is as a teaching aid that the teacher arranges and creates to influence the climate, conditions, and learning environment (Nugrahani, 2007). Four other functions of learning media, especially visual media, namely: (1) attention function to direct students' attention to the content of material related to visual meanings, affective functions to arouse students' emotions and attitudes so that students enjoy learning, cognitive functions facilitate the achievement of learning objectives in terms of understanding and remembering information or messages contained in pictures, and compensatory functions to accommodate students who are weak and slow to accept the contents of the material presented with text or verbally (Arsyad, 2011).

This research produces iVocard learning media for early childhood, which is expected to develop children's English vocabulary skills. This learning media can also develop other aspects of development, such as cognitive and visual abilities and children's concentration. The design is packaged in the form of a card game. It is hoped that iVocard learning media can increase children's interest in learning English vocabulary. With this learning media, teachers can also conduct evaluations or assessments to retest children's learning outcomes. The activities in the iVocard learning media for early childhood are as follows: getting to know letters, learning to know English vocabulary, and learning to say words in English. Early childhood learning is carried out by playing using learning media, both real media, audio, visual, environmental, and audio-visual. It is hoped that it can help children's learning to be more fun so that separating all aspects of early childhood development from ECE learning media can run effectively (Zaini & Dewi, 2017).

Validation has been carried out on materials and media using iVocard. The aspects assessed are content quality and objectives, technical and instructional aspects. Material and media experts consider that the aspects of the iVocard are very suitable for children's learning media. However, based on the validation test results, there is a slight improvement for iVocard learning media. The suggestions for improvement are with the aim that the media to be used can be carried out for the next stage, namely implementation, and evaluation. As well as in order to improve the quality of iVocard learning media, The suggestion from the material expert is that each iVocard card does not only include the name of the animal but can also include other things such as the type of food, the type of animal and its habitat, or other things according to the scope of knowledge that is appropriate for the age of the child. Then, media experts provide advice regarding the size and content listed on the card. The card size should be bigger. A toy's big or small size will affect the child's safety. In addition to size, there are improvements to the color of the cards, which are considered monotonous and are felt to make children bored. Card colors are expected to use colors that are more attractive to children so that children enjoy and feel happy about learning. The application of card colors allows children to interpret easily and helps direct their attention to the contents of the material related to visual meaning (Arsyad, 2011). Another suggestion is that

iVocard learning media should be accompanied by supporting pictures of objects or animals intended as a tool for children to understand more easily. Learning that runs excitingly will add to the passion and motivation of children to learn (Zaman & Eliyawati, 2010).

Conclusion

Based on the results of the analysis and research that has been done, it can be concluded that the iVocard media is very suitable for stimulating children's English vocabulary. It can be proven by the results of data validation by media experts and material experts, who both show that iVocard media is very suitable for children to increase their English vocabulary. The next stage is implementation (implementation) and evaluation (evaluation). In the next two stages, tests will be carried out on the learning media products that have been developed. However, this paper does not discuss these two stages because this research focuses only on product development or development. Early childhood learning requires the development of learning media so that learning becomes more interesting and meaningful for children. iVocard media still requires expert testing to assess the suitability and feasibility of products in terms of language and design to be applied in early childhood learning. Testing on the design of learning media with the aim that the media is not only valid according to media and material experts but also valid based on factor analysis so that it can be further developed and of higher quality when used in a wider scope.

Declarations

Author contribution statement

Jovinska Viora Budiman conceived the presented idea, developed the theory of early childhood education, learning media, and english development. Mozes Kurniawan verified the analytical methods. All authors discussed the results and contributed to the final manuscript.

Funding statement

This research received no specific grant form any funding agency in the public, commercial, or not-for-profit sectors.

Data availability statement

The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

Declaration of interests statement

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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