

## Augmented Reality (AR) media-aided literature learning tool for elementary school students

### Perangkat pembelajaran sastra berbantu media *Augmented Reality* (AR) untuk siswa sekolah dasar

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#### KEYWORDS

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#### ABSTRACT

Learning devices need to be designed according to the characteristics of the material and be innovative. The results of the field study show that learning the subject of Indonesian fairy tale messages in elementary schools has not been fully implemented using such media, teaching materials, and assessment tools. Referring to this, this study aims to develop a literary learning device assisted by Augmented Reality (AR) media. This development research refers to the design-based research (DBR) development model from Amiel and Reeves (2008). The subjects of this development research trial were twenty students and a third-grade elementary school teacher. Data collection techniques used are semi-structured interviews, observation, and documentation. Data analysis is done by reducing, and presenting, until finding the interpretation of the data. The results of the study in the form of learning device products consisting of learning media, teaching materials, and assessment instruments showed that the Augmented Reality media-assisted literary learning device was validated as very feasible (85%) with a high level of practicality category (93%). The implication is that this product can be used in learning literature in elementary schools as an innovative alternative learning tool.

#### KATA KUNCI

perangkat pembelajaran, bahan ajar, media, penilaian, *Augmented Reality* (AR).

#### ABSTRAK

Perangkat pembelajaran perlu dirancang sesuai karakteristik materi dan inovatif. Hasil studi lapangan menunjukkan pembelajaran dengan pokok bahasan pesan dongeng bahasa Indonesia di SD belum sepenuhnya dilaksanakan menggunakan media, bahan ajar, dan alat penilaian. Mengacu pada hal tersebut, penelitian ini bertujuan untuk mengembangkan perangkat pembelajaran sastra berbantu media *Augmented Reality* (AR). Penelitian pengembangan ini mengacu pada model pengembangan *design-based research* (DBR) dari Amiel dan Reeves (2008). Subjek uji coba penelitian pengembangan ini adalah dua puluh orang siswa dan seorang guru kelas tiga SD. Teknik pengumpulan data yang digunakan yaitu wawancara semi terstruktur, observasi dan dokumentasi. Analisis data dilakukan dengan cara mereduksi, menyajikan, sampai menemukan interpretasi data. Hasil penelitian berupa produk perangkat pembelajaran terdiri atas media pembelajaran, bahan ajar, dan instrumen penilaian yang menunjukkan bahwa perangkat pembelajaran sastra berbantu media *Augmented Reality* tersebut tervalidasi sangat layak (85%) dengan kategori tingkat kepraktisan tinggi (93%). Implikasinya, produk ini dapat digunakan pada pembelajaran sastra di SD sebagai perangkat pembelajaran alternatif yang inovatif.

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## **Introduction**

Learning equipment is a very important component to support teaching and learning activities. Before being used in teaching and learning activities, learning tools need to be carefully prepared. According to Zuhdan, et al. (2011), learning devices are all tools or equipment to carry out the learning process between educators and students. Learning tools are also a guide for teachers in carrying out learning both in class, in the laboratory, or outside the classroom. Innovation is carried out by the teacher to perfect and continuously improve new learning activities so that they provide great benefits to students. Innovative learning is learning that is packaged by teachers or lecturers to realize new ideas and techniques that are able to facilitate students so that they can gain progress in learning processes and outcomes. In compiling learning tools, innovation is needed to be able to facilitate students to make progress in the process and learning outcomes with the hope that learning can be accepted by students more authentically. Innovation can be done in learning aspects, namely learning models, learning media, organizing learning materials, and evaluation systems. Besides that, according to Akyuz and Yafuz (2015), digital learning is a learning practice that effectively uses technology to strengthen student learning experiences. The more students experience a variety of different experiences, the more they can explore a wide variety of learning processes. Majid (2018) states that preparing teaching materials is also important before the implementation of learning because students can learn competency in a coherent and systematic way so that, in accumulation, they are able to master the competence as a whole and in an integrated manner.

Based on field studies, learning with the subject of describing and demonstrating Indonesian fairy tale messages in elementary schools has not obtained maximum results, due to the limited learning tools that are in accordance with the characteristics of current students (generation Z) who are very interested in things related to technology and there have not been any development of learning tools that are in accordance with current education known as education 4.0. Education 4.0 is an implication of the industrial revolution 4.0, where science and technology have become public goods that are very easy to obtain by anyone and anywhere. Daniel (2009) also called this era as the era of product abundance, everything can be obtained easily, anytime and anywhere, including science and information.

Therefore, this study aims to develop a literary learning device assisted by Augmented Reality (AR) media. The learning tools include media, teaching materials, and assessment instruments. Taking into account the characteristics of current learners, the media developed utilizes Augmented Reality technology. The teaching materials developed refer to character education and moral values. Meanwhile, the assessment instrument was developed based on performance appraisal in order to obtain authentic results. This goal is set with the hope that learning tools are developed according to the characteristics of the material and are innovative.

In addition to these impacts, the industrial revolution 4.0 also brings challenges to the world of education, namely changes in the behavior of Generation Z in the context of learning, changes in teaching methods such as the use of new concepts, flipped classrooms, new infrastructure, virtual-based devices, and changes in the learning process

such as massive vs personalize learning (Wardani et al., 2018). To answer these challenges, concrete steps are needed so that education can develop more advanced and can prepare students for a better life in the future.

Concrete steps that can be taken by teachers are to design learning tools that are more innovative and in accordance with the demands of education in the 4.0 era. The use of technology in the learning process can be carried out according to the needs of students. This is in line with Qumailaila et al. (2017) who argues that technology and media in learning can be beneficial in improving the quality of learning itself".

Augmented Reality (AR) is an innovation in the field of technology and information that can be integrated into learning in order to make learning more authentic and in accordance with the characteristics of current learners (generation Z). As contained in *Augmented Reality in Education* by Hamilton and Olenewa (2011) there are various potentials and advantages of applying Augmented Reality (AR) technology for education, one of which is having the power to attract students in ways that were previously not possible and provide freedom for students to carry out the discovery process in their own way. Therefore, learning devices with the subject of describing and demonstrating Indonesian fairy tale messages in elementary schools need to be designed based on Augmented Reality (AR) technology.

However, in reality, the use of media that utilizes technology is still relatively lacking. This is proven based on previous research conducted by Rahayu (2021) which states that the lack of use of learning media causes students to have learning difficulties. So far, the use of picture media makes a difference and has a positive influence on student learning outcomes (Antari et al., 2019; Wahyuni et al., 2019) and the use of folklore text media affects students' reading comprehension competence in Indonesian subjects (Dewi et al., 2019). So, if the two media are assisted by technology that is able to provide a more meaningful learning experience, it will certainly provide a strengthening of understanding for students. This needs to be done, because as far as researchers observe in learning the subject matter of fairy tale messages, teachers are still limited to using printed images to display stories, or even without using media at all and learning does not inspire students' enthusiasm as well as assessments that are still oriented to cognitive aspects. In fact, children's stories (fairy tales) are included in imaginative stories with content that is close to children's lives, especially in the process, understanding and introduction to both nature, the environment, as well as an introduction to feelings and thoughts about oneself and others (Nurmanita, 2020). The results of the literature review also show that there is no use of Augmented Reality (AR) technology which is used as a learning aid, especially in the subject of fairy tale messages. Therefore, it is necessary to develop a literary learning device assisted by Augmented Reality (AR) media for elementary school students, as a concrete step for innovation in learning. In addition, the results of the literature review have not found any research that is oriented towards learning innovation in the development of literary learning tools assisted by Augmented Reality (AR) media for elementary school students.

All learning activities including learning tools are regulated by the curriculum. The curriculum used now is the 2013 curriculum which has student center characteristics. To adapt to the curriculum and educational conditions that face the challenges of education 4.0, it is necessary to develop each learning device. However, based on the results

of the preliminary study, the teacher did not prepare a tool to achieve the competencies to be achieved.

In this regard, the results of field studies show that the use of media in learning is very weak. Whereas the media will help achieve the competencies listed in the curriculum. Media is seen as a tool used to convey messages through the communication process so that messages can be received properly and clearly by the recipient of the message (Atapukang, 2016). In the learning process, media is everything in the form of technology, tools, objects, events that can convey learning messages that can serve to facilitate teachers in delivering learning materials, as well as assist students in understanding the material provided by the teacher, so as to create a fun and enjoyable learning process (Arsyad, 2017; Dewanti et al., 2019). In addition, the use of media must also be in accordance with the competence or learning objectives, the nature of the teaching materials and the learning strategies to be used (Antara et al., 2019). Learning media can be grouped into four groups, namely: (1) print technology media; (2) media resulting from audio-visual technology; (3) media; (4) result of computer based technology (Arsyad, 2017).

Levie & Lentz suggested four functions of learning media, especially visual media, namely attention function, affective function, cognitive function, and compensatory function. The function of visual media attention is the core, namely attracting and directing students' attention to concentrate on the content of the lesson related to the visual meaning displayed or accompanying the text of the subject matter (Arsyad, 2017). One of the findings of new media in the global world is the development of technology based on Augmented Reality (AR). Augmented Reality technology brings technological improvements in daily activities, without exception learning activities (Scrivner et. al., 2016). This technology has very different advantages compared to other learning technologies. The technology owned by AR is to combine virtual and reality aspects at the same time, both through two-dimensional and three-dimensional forms (Tulgar, 2019).

When learning illustrated texts, students' level of enjoyment can be used to gauge the emotive function of visual media. Students' emotions and views might be influenced by visual pictures or symbols, such as knowledge on social or racial issues. The findings of study show that visual media that give context for interpreting texts aid students who are bad readers to organize information in the text and retain it, which demonstrates the compensatory function of learning media. The innovation in the application of augmented reality technology as a learning aid or tool has been widely used in a variety of subject areas at different levels of education. For example, in the content of the science lesson on ecosystem material (Nirwanto & Fathurrohman, 2021).

*Augmented Reality* (AR) is a technology in the field of communication and information that has the concept of bringing virtual objects into a real three-dimensional environment through a webcam and projecting it in real time (Fenty & Nurochmah, 2014; Nugroho & Ramadhani, 2015; Qumailaila et al., 2017). The advantage of this technology is that it can present more interesting content in different ways that were previously impossible and provide different perspectives to its users (Wahyudi et. al., 2018). With the 2D and 3D display of the developed learning media, it will greatly support the attention function of the media.

## Method

This research is qualitative research using the DBR (Design-Base Research) method. DBR is defined by Barab and Squire (2004) in (Herrington et al., 2007) as “a series of approaches, with the intent of producing new theories, artifacts, and practices that account for and potentially impact learning and teaching in naturalistic settings”. Design Based Research (DBR) is referred to as “development research” (Van den Akker as cited in Herrington et al., 2007).

Therefore, Design Based Research (DBR) is referred to as a research method that can be implemented in the development of learning tools. Design-based research integrates the development of solutions to practical problems in a learning environment with the identification of reusable design principles. Steps of DBR were developed by Amiel & Reeves (2008).

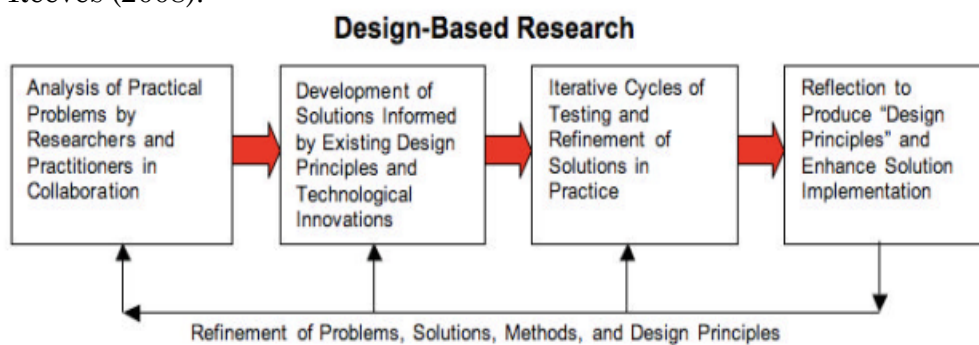


Figure 1. Reeves model DBR research flow

Figure 1 describe This study involved a teacher and 20 third grade elementary school students in the city of Tasikmalaya, East Java as sources of research data. The following data collection techniques are carried out. First, through interviews followed by FGDs, a collaborative analysis of practical problems by researchers and teacher practitioners focused on analyzing the needs of fairy tales teaching materials based on the characteristics of students, criteria for selecting teaching materials; and pay attention to learning objectives, namely students are able to understand the message of fairy tales and are able to convey the message by showing good speaking skills. Second, the development of solutions, namely developing teaching materials by considering themes and mandates containing relevant story characters/moral values until a selected fairy tale is produced which is recommended as teaching material; developing fairy tale learning media in the form of animated images and fairy tale message texts assisted by AR technology; developing speaking skills assessment instruments to measure students' ability to convey fairy tale messages, followed by validation from experts in related fields (literature learning experts, media experts, and assessment experts) as well as experienced teaching practitioners. Third, conducting trials with repeated cycles to refine the solutions that have been developed through practicality tests. Finally, carrying out reflections to generate design principles and improve the quality of solution implementation. Taking into account the limitations of the scope of the study, the design principle is focused on the design principles of media development because it accommodates teaching materials in digital book format and is oriented according to performance assessment instruments.

## Results

The results of this study are described based on the DBR development model whose stages consist of identification and analysis with practitioners, solution development, testing, and reflection. The results of the identification and analysis of field studies depicted that the learning tools for the subject of fairy tale messages were used by third grade teachers in four elementary schools. The material about fairy tale messages used by teachers was not based on an analysis of the content of fairy tales, as teaching materials, but fairy tales package book. The teacher only conducts a cursory analysis of the textbook that contains fairy tales in it. In addition, learning about fairy tale messages in elementary school presents more fairy tales directly or spontaneously. That is, there are no special criteria in choosing story teaching materials for children. In fact, analyzing fairy tales as teaching materials is very important to suit the development of children as students.

Furthermore, the results of the analysis of fairy tale learning media in elementary school are only limited to thematic books. A number of teachers stated that with the existence of fairy tales in thematic books, there was no need to use other media. This can cause problems, including the lack of students' understanding of the message material contained in fairy tales because students are not facilitated by easy-to-understand and interesting media. As a result, learning becomes monotonous and does not attract the attention of students. There are elementary school teachers who use pictures as media because they are confused about finding alternative learning media related to fairy tales. In assessing speaking skills in learning the subject matter of fairy tale messages, the teacher uses a speaking assessment rubric based on the guidelines or examples found on the student worksheet, rubrics on thematic books, or downloads from the internet. When using the rubric, the teacher interprets the indicators and assigns a score based on personal assumptions because sometimes the criteria are difficult to distinguish. Thus, the assessment of speaking skills in the Indonesian language learning process, especially conveying fairy tale messages has not been considered authentically and adequately.

Furthermore, the researchers designed a learning device for the subject of fairy tale messages with the help of Augmented Reality (AR) media for students of elementary school, which began by looking back at the Indonesian language curriculum on fairy tale message material in elementary school, covering basic competencies, indicators of competency achievement, and learning objectives. Then they pay attention to aspects in the development of digital teaching materials including the anatomy and structure of books, AR media, and authentic assessment.

The selection of teaching materials in the form of fairy tales begins with analyzing the message contained in the story. Analysis of fairy tale messages is carried out to select teaching materials that match the criteria required. Based on the sixteen titles of Indonesian fairy tales that have been analyzed, the story "Raja Cendo" was chosen as teaching material. The fairy tale raises a more diverse value mandate so that it is suitable to be used as teaching material for fairy tale messages. Then the fairy tale is presented in the form of a digital book. The development of learning media begins with determining the design of the image that appears in the AR application. The image



is used as a medium that contains fairy tale messages in digital books. Furthermore, researchers conducted some activities such as compiling storyboards and developing complete learning media products.

Before designing the product, pre-installed applications are prepared to create the product. The prepared applications are Corel Draw, Adobe Photoshop and HP Reveal. The first step is to make a book layout using the Corel Draw application assisted by the Photoshop application. The second stage is designing a barcode that serves as an AR scanning target. The third step is to design an image containing a fairy tale message that will appear when scanned using a cell phone. Then the last step is to integrate the images that will appear with the barcode using the HP Reveal Application. The Figure 2-4 are the examples of the display of teaching materials and learning media products.



Figure 2. Book page display



Figure 3. Scanned image



Figure 4. Learning AR

Figure 2 is a display on a storybook that already has a barcode, Figure 3 is an animation or image that will appear when scanning a barcode, and Figure 4 is a trial of the use of AR media in learning literature on material conveying fairy tale messages. Although the animation used is still two-dimensional, the students seem full of interest, show their curiosity, enthusiasm, and motivation during the use the developed device.

The development of the assessment instrument begins with determining the performance aspect in accordance with the learning objectives. Then, the performance appraisal instrument was compiled, namely compiling a rubric format, determining the scale of the instrument, compiling scoring guidelines, and compiling instructions for the use of performance appraisal instruments.

The developed instrument contains components that are in accordance with authentic assessment guidelines, namely an assessment scale or category to mark the level of quality of performance or product implementation, a description of each aspect in each level of the rating scale or category, and the calculation of the final score. The Rubric of Performance Assessment of Speaking Skills in Conveying Fairy tale Messages consists of 8 aspects, namely the suitability of the message content, completeness of delivery, effective sentences, standard vocabulary, expressions, pronunciation, intonation, and confidence. Aspects of the suitability of the content of the message and the completeness of delivery, are considered so that there is harmony with the fairy tale text which is used as teaching material as a competency required by the basic competencies of the cognitive domain. Meanwhile, aspects of effective sentences, standard vocabulary, expressions, pronunciation, and intonation are considered in accordance with the basic competencies of the psychomotor domain. Meanwhile, the aspect of self-confidence is considered to fulfil the affective domain in accordance with the basic competencies of the cognitive and psychomotor domains. Each aspect consists of 4 criteria that indicate the disparity of students' abilities.

The rating scale or category to mark the level of quality of performance or product implementation uses a scale of numbers 1, 2, 3, and 4. This is based on consideration of the complexity of the performance carried out. The use of a scale starting from 1 instead of 0 is based on the opinion of Guskey and Marzano (as cited in Wulan et al., 2018) starts the rubric from one (1) or zero (0). Number 1 indicates performance that is irrelevant or does not provide the requested explanation. Zero (0) is given if no response is shown. Then a range is chosen starting from number 1 with the assumption that students have done certain tasks, in other words, students have carried out activities even though they have not reached a certain quality so that it cannot be interpreted as doing nothing by giving a score of zero (0).

Furthermore, the description of each aspect in each level of the rating scale or category is categorized into four levels. The description of each scale or category is a description of the abilities or characteristics shown by students at that level. This description is the basis for determining the achievement score. There are eight aspects of performance defined, each aspect is described into four levels of levels.

Next, the calculation of the final score of student performance is obtained from all aspects of the total score obtained divided by the maximum score of student achievement for performance multiplied by 100. After the design of the performance appraisal



rubric has been compiled, instructions for using the product are then compiled so that users can use it according to their needs.

Table 2. Instructions for use of performance assessment instruments in conveying fairy tale messages

No.	Instruction
1.	Assessment of speaking skills performance is one of the authentic assessments in the 2013 curriculum.
2.	This performance assessment is used to assess student' speaking skills in conveying fairy tale messages.
3.	The purpose of developing this performance assessment is to assist teachers in assessing student' speaking skills.
4.	This performance assessment is equipped with a grid and a task as a learning activity that must be done by students.
5.	Assessment of speaking skills conveying messages is done after students fill out the assignment sheet.
6.	In the assessment rubric there are two parts, namely: <ol style="list-style-type: none"> <li>a. A list of criteria containing indicators of performance aspects that students must achieve</li> <li>b. Description of the quality of student performance based on the lowest to the highest level</li> </ol>
7.	The assessment rubric is used to assess student' skills in conveying messages either directly with questions and answers or by being given special time for student presentations.
8.	When students deliver messages/presentations, these activities can be documented if the assessment will be carried out outside the learning process.
9.	The assessment is carried out by a third-grade elementary school teacher
10.	The assessment used uses a Likert scale with a score between 1-4 with a description of the performance achieved.
11.	Before conducting an assessment, first understand all the assessment instruments.
12.	The scoring is done by giving a number in the column that has been provided and in accordance with the studen's skills shown.
13.	To get the final score, the score is processed according to the assessment guidelines that have been provided.

Table 2 shows instructions for use of performance assessment instruments in conveying fairy tale messages. Reflected data shows a number of design principles that are needed for the development of literary learning tools, especially AR media, namely form, purpose, context, concept, and characteristics.

The media developed in this research was in the form of a digital book that contained a barcode to display the scanned image through an Augmented Reality-based application found on a cellular phone. This type of media is a medium that will involve students in the learning process. It is expected to be a learning magnet so that it can attract the attention of students and grow their motivation to be actively involved in learning. It is implemented in Indonesian learning of fairy tale message material.

The qualities of the material created are adapted to the characteristics of pupils. According to test results, many kids prefer using technology as a learning tool. This has an impact on how practically instructors' lessons are implemented. This media is one element that is inextricably linked to other teaching tools including textbooks, lesson plans, and learning evaluations. This form of media is used to teach Indonesian students the moral lessons of fairy tales. This form of media is used to teach Indonesian students the moral lessons of fairy tales. The purpose of this material is to help pupils

recognize the characters, places, and themes or messages found in fairy tales. The qualities of the material created are adapted to the characteristics of pupils.

## **Discussion**

Based on the results of the analysis of the validity of teaching materials, media, and assessment instruments, the average validation score was obtained with a score of 4.25 on a scale of 5. The average level of practicality of the Augmented Reality-assisted literature learning device developed was 93%, namely qualified "very practical". These qualifications indicate that the literature learning tools developed on the material to convey fairy tale messages are very feasible and very practical to use for elementary school students. This finding is in line with the opinion of several experts because the teaching materials developed have been adapted to the orientation of character education and moral values contained in fairy tales. Because, in fairy tales contain messages about procedures in life and discuss good and bad behavior (Harimanto & Winarto, 2010; Sulistyorini, 2009). In addition, the teaching materials used have also met the principles of the criteria for teaching materials.

Likewise, the development of Augmented Reality-based learning media which has been tested twice has received positive responses from teachers and students. In the first and second trials, in general, teachers responded well to aspects of media selection, the benefits of learning media and the use of media, as well as providing support for the products developed. Likewise with students, in the first trial, the percentage of student responses to the product obtained the following results: 1) the benefits of learning media from 4 aspects obtained an average of 97.5%; 2) the elements of learning media Augmented Reality 95%; 3) The contents of the book get an average of 100%. Some students added comments by answering that the book used was very interesting, most of the students liked it, the story is easy to understand and makes the spirit to read. Then, in the second trial, the percentage of student responses to the product obtained the following results: 1) the benefits of learning media from 4 indicators obtained an average of 100%; 2) the elements of learning media Augmented Reality 95%; 3) the contents of the book get an average of 100%. Most of the students also added comments in the message and impressions column after using the book. The comments written by students are that the book is good and interesting.

Adequate teaching materials and interesting learning media are incomplete without measuring tools to determine the achievement of the competencies that are the learning objectives. Therefore, an assessment instrument was developed to measure the ability of students in the cognitive, affective, and psychomotor domains of students in conveying fairy tale messages that show their speaking skills. This is in line with opinion of Hamalik (2012) and Setiadi (2016) that the measurement aims to describe student' products and behavior or must cover three domains, namely affective, cognitive, and psychomotor. As for the effectiveness of speaking factors explained by Arsjad & Mukti (1993) consists of two aspects, as follows: linguistic aspects (pronunciation or pronunciation, intonation, diction or choice of words, sentences, vocabulary) and non-linguistic aspects (calm and reasonable attitude, gestures and expressions, voice volume, fluency and accuracy, and topic mastery). Based on the validity test, the assessment instrument developed was appropriate and met the criteria for a good rubric and task based on the

response from the validator, so it was included in the appropriate category and could be used.

The development of learning tools in this study was carried out by taking into account technological advances and the characteristics of students in the hope of contributing to the creation of quality learning because learning tools that are tailored to the needs of students will produce quality learning (Qumailaila et al., 2017). This AR-assisted literary learning device has been designed, developed, and then tested by the teacher on students. And overall, the results of the reflection show that this AR-assisted learning device has produced a learning device product in the form of teaching materials that are suitable for use in learning literature, conveying fairy tale messages. The development of this learning device also received a positive response from students and teachers. The AR media-assisted literary learning device is considered easy to use by the teacher because each step of the use of the media and the assessment instrument is equipped with instructions for use. However, there are several challenges in its implementation, including the limited number of devices and the limited availability of internet networks in schools.

AR technology as a technology in the field of communication and information allows the incorporation of these two-dimensional virtual objects into the three-dimensional real world (Fenty & Nurochmah, 2014; Nugroho & Ramadhani, 2015). Through AR technology-assisted media, students can witness firsthand the behavior or attitudes of the characters who represent the moral messages of fairy tales. Students gain access to information on story messages after scanning the barcode, they seem full of interest and enthusiasm in carrying out learning using the media. Paying attention to the situation, reinforces the previous opinion that the media can foster motivation, interest, and action as well as present information (Kemp & Dayton in Arsyad, 2017). Thus, AR can be used as a learning medium in the material for delivering fairy tale messages. In addition, the use of these media shows the provision of creative and quality learning process facilities because in the learning process teachers must be able to create quality and creative learning, one of which is by providing learning process facilities (Rahayu et al., 2020). However, because of this technology that combines the virtual world and the real world, it uses mobile phone media as an intermediary to run AR applications. It may be that not every school can provide adequate devices for this purpose.

Literary material in elementary school is more meaningful for students when it is delivered using learning tools that are able to arouse their attention, arouse their enthusiasm and curiosity. In today's 21st century, the world is increasingly using technology in every line of life, including education. New breakthroughs in the world of education will actually benefit teachers and students to get quality and meaningful learning. In addition, the use of this technology will greatly assist the learning process and save time if it is managed and developed properly. This is sought to be realized through the development of literary learning tools assisted by AR media. Innovate in the learning process by utilizing technology that attracts students' interest because this innovation can be started by shifting the learning paradigm from teacher-centered to student-centered (Gunawan et al., 2019; Setianingsih et al., 2019). In addition, children who are starting to enter the age of 6-11 years really like something that is interesting or has never been seen before, especially something that can be seen in real terms and

contains elements of learning (Mokodompit et. al., 2021). This media for learning fairy tales assisted by AR technology seems to attract the interest and interest of elementary school students.

The contribution to the advancement of the scientific field as well as the strength of this research lies in the development of literary learning tools that are carried out holistically, namely integrating the development of three learning components, namely teaching materials, media, and assessment instruments. This is different from previous studies, in which the development activities were carried out partially. As is the case with research conducted by Muktadir (2016) and Kusmana (2021) which is focused only on the development of folklore teaching materials for character education. Both convey the importance of moral values and characters contained in the story, because the characters developed in the characters in the story will be imitated by readers in their lives. Other research is only focused on media development, including: the research done by Rohmatul and Fatmawati (2020) about the use of the Lectora Inspire application and the research of Karisma et. al. (2020) in the form of a pop-up book. Likewise, the development of this assessment instrument is considered to be able to measure student learning outcomes in real terms or actualized in the daily lives of students (Nirshoka, 2018). Even in research by Rahman & Romdhani (2015) shows the results of the teacher's perception of the authentic assessment including the "good" category. In addition to the development of teaching materials, interactive and innovative media also need to be developed, one of which is by utilizing digital technology. Both of these media will certainly support learning in the 21st century today. The development of learning tools in the form of assessment instruments also needs to be done, such as authentic or performance assessment instruments.

However, this research cannot be separated from the limitations of which the components of the learning media in the form of animation developed are still limited to two-dimensional forms. By using better technological devices, in the future it is hoped that literary learning media in the form of three-dimensional animation can be developed. This is indicated to be preferred by elementary school students because of its more concrete visualization. This is in line with Piaget's theory of cognitive development which states that elementary school age students need concrete objects in learning (Fatimah, 2015). Based on the results of previous research, it is believed that the development of learning tools on the topic of literature, especially fairy tales, is implemented in elementary schools so that it can improve student learning outcomes and motivation.

## **Conclusions**

Based on the results of the research and discussion, it can be concluded that literary learning tools assisted by Augmented Reality media in literary learning (tale message material) for qualified elementary school students are very feasible and very practical because they provide significant benefits according to the characteristics of the material and are innovative. Students have an interesting learning experience because visual media in the form of AR technology is an alternative solution to overcome learning problems, namely helping weak and slow students to accept and understand fairy tale texts that are presented in the form of manual printed texts or presented verbally.

Thus, the learning tools developed consist of teaching materials in the form of fairy tales with a number of moral values as the message of the story, AR technology-based fairy tale learning media, and performance assessment instruments to measure speaking skills (delivering fairy tale messages) are appropriate for elementary school students. Raja Cendol's fairy tale teaching materials contain representative moral values as material for conveying fairy tale messages. Media learning fairy tales assisted by AR technology is considered effective in conveying material content according to learning objectives. The performance assessment instrument developed can measure speaking skills so that it shows the achievement of student competencies. Therefore, the findings of this study can contribute as a tool for learning literature on fairy tale material in elementary school. However, the developed AR media is limited to two dimensions. It is recommended that further research be focused on developing literary learning media assisted by Augmented Reality technology by making a model in the form of a three-dimensional animation to make it more authentic and representative.

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