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The effect of Indonesian folktales on fourth-grade students' reading comprehension and motivation

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Abstract. The low level of fourth-grade students' reading comprehension affects their learning motivation in elementary school. To overcome these problems, this study is aimed: first, to develop indigenous folktales picture books; second, to investigate the effect of Indonesian folktales on students' reading comprehension and learning motivation. This study used a quasi-experimental design. The participants were 49 fourth-grade students divided into experimental and control groups. The study was conducted at two public Indonesian elementary schools. The Reading Comprehension Test (RCT) and the Motivation to Learn Scale (MLS) were administered as pre-and post-tests. To analyze data, independent and paired *t*-tests were used at .05 significance level. The results showed that experimental group students had higher scores on both dependent variables compared to their counterparts. It indicated that Indonesian folktales picture books significantly promote reading comprehension and motivation of experimental group students compared to control group students.

Keywords: Indigenous folktales, Picture books, Reading comprehension, Motivation, Elementary school students

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INTRODUCTION

Reading comprehension, as a challenge of 21st century literacy, involves a number of cognitive and linguistic processes. In elementary school, reading comprehension is needed to achieve reading proficiency test. Reading comprehension is defined as a series of processes identifying words, activating initial knowledge and experience, and constructing the meaning of texts (Tompkins & Hokisson, 1991; Prado & Plourde, 2011). In the classroom, promoting reading comprehension aims to help students with the ability to analyze written texts effectively. However, Wallot, O'Brien, Haussmann, Kloos, and Lyby (2014) revealed that elementary school students who were fluent in reading did not always have good reading skills. Children with impaired reading comprehension were poor in understanding what they read despite their fluent and fast reading skills (Cain, Oakhill, Barnes, & Bryant, 2001; Cragg & Nation, 2006). Thus, it is important for teachers to not only stimulate students to read fluently but also encourage them to appropriately get meaning and draw conclusions from the story.

Reading comprehension has a vital role in helping students understand various phenomena in daily life (Lan, Lo, & Hsu, 2014). Furthermore, Dickinson, Griffith, Golinkoff, and Hirsh-Pasek (2012) determined that reading comprehension was important to support long-term academic success. Unfortunately, over the past few years, the negative trends of Indonesian students in terms of reading comprehension were documented. The International Reading Literacy Study (PIRLS, 2011) reported that Indonesia ranks 45th out of 48 countries. In another study, the Organization for Economic Co-operation and Development (OECD, 2018) stated that Indonesian students' literacy reading ranks 72 out of 78 countries. Reading books was also found to be relatively declining among children and adolescents not only in Indonesia

but also in various countries (Mangen, 2016; OECD, 2010). In fact, Torppa, Vasalampi, Eklund, Sulkunen, and Niemi (2020) revealed that students with poor understanding showed low motivation, higher burnout rates, and lower school enjoyment. This phenomenon arose due to the lack of interest in reading students and their less tendency to read (Mol & Bus, 2011).

In addition to reading comprehension, learning motivation is an important element to actively involve students in the learning process (Hong, Huang, Hsu, & Shen, 2016). Pintrich and Schunk (1996) described motivation as 'the process where the goal-directed activity was instigated and sustained'. Furthermore, Deci and Ryan (1985) divided motivation into two types; intrinsic motivation is defined as student involvement in an assignment for the task, and, extrinsic motivation is described as involvement in a task for external reasons. Today, Beaten, Dochy, and Struyven (2013) pointed out that motivation becomes a basic need. This is because learning motivation is claimed to influence academic achievement and ultimately has an impact on student learning success (Shin, Lee, & Ha, 2017). Gilbert, Musu, Woolly, Karabenik, Strutchens, and Martin (2014) also explained that good motivation can improve student learning. In other words, high motivation impacts good performance. This argument is supported by Li and Zheng (2017) who suggested a positive correlation between learning motivation and achievement.

Although motivation is a key in learning, previous evidence reports a decrease in elementary school motivation for language learning as grade levels increase (e.g., Butler & Takeuchi 2008; Hooper & Miller, 1991; Nishida, 2008). This condition is compounded by the study of Pitcher et al. (2007) which revealed that many teachers get difficulty teaching students with the weak motivation to read. As a result, student attainment influences their motivation to learn (Jackman, Townsend, & Hamilton, 2011). Wigfield (2000) correlated the use of learning strategies in motivating students to learn plays an important role in increasing motivation. Thus, the teacher needs to provide a contextual learning environment. This assumption is based on the study of Lemos and Verissimo (2014) which revealed that the use of textbooks, socio-cultural context, and teaching methods affects the motivation of elementary school students.

The previous research shows that the low ability to read and motivation among students can be improved using various approaches. For example, McVicker (2007) reported that the use of comics promotes students' reading skills. Furthermore, Albers and Hoffman (2012) developed a flashcard to improve reading comprehension and fluency in reading. In addition, Sabbah, Masood, and Iranmanesh (2013) asserted that graphic novels could improve the reading comprehension skills of elementary school students. In empirical studies, instructional media such as images, graphs, and diagrams could be used to optimize the learning process and motivate students (U.S. Agency for International Development [USAID], 2014). Heath, Smith, and Young (2017) also claimed that picture books increased students' motivation and emotions. Supportively, Arizpe and Styles (2003) confirmed that children aged 6-12 years preferred books containing pictures rather than text. Previous evidence showed that attractive teaching materials were effective in stimulating students to enjoy reading and understanding texts.

At present, the role of picture books is very important in helping students understand the meaning of a story (Bowkett & Hitcman, 2012), for example, folktales. The constructive approach assumes that everything that the reader does, whether seeing images or words, can strengthen the understanding of the text (Feathers & Arya, 2015). In the picture book, Wolf (2004) argued that the combination of pictures and words was able to convey information and form a unique message. Furthermore, Brown and Tomlinson (1999) viewed picture books as learning media where pictures and texts were combined to tell folktales. However, the use of folktales picture books in catalyzing elementary students learning was not comprehensively developed. In fact, folktales had great potential to construct social values, gain new knowledge, and strengthen interaction among students and communication between teacher and students (Jirata, 2018; Kuyvenhoven, 2007; Nicolopoulou, 2011). To address this problem, the current research was aimed to develop and investigate the effects of Indonesian folktales picture books on fourth-grade students' reading comprehension and motivation. The research questions were:

a) Is there a significant increase in scores on reading comprehension and motivation skills between students in the experimental and control groups before and after treatment?

b) Is there a significant difference in scores on reading comprehension and motivation skills between students in the experimental and control groups?

As an archipelago country, Indonesia has thousands of folktales from hundreds of local tribes and cultures (Sukmawan, Rizal, & Nurmansyah, 2018). These indigenous folktales can be used as learning resources to enrich knowledge and moral values, introduce local culture, activate curiosity, and ultimately improve the learning process. Thus, in this study, the researchers explore four original Indonesian folktales; *Asal Mula Kota Jambi, Asal Mula Kota Cirebon, Danau Toba,* and *Batu Menangis*, into picture books.

***Asal Mula Kota Jambi* (The Origins of Jambi)**

Jambi is one of the provinces in western Indonesia. According to Soekardi and Syahbudin (2006), this legend tells a king from the kingdom of Titian Sijenjang on the island of Sumatra who orders his people to plant Jambe trees. One day, the kingdom of Titian Sijenjang is attacked by the kingdom of Lubuk Dalam because he refuses the request of the king of Lubuk Dalam to propose the royal princess of Titian Sijenjang. The battle lasts very long until the kingdom of Titian Sijenjang has no weapons. Then, the king orders his people to take the Jambe tree bearing fruit already. Jambe fruit is made as a war tool that successfully defeats the kingdom of Lubuk Dalam. The victory makes the king and the people happy. Finally, the city is named "*Jambi*" which means Jambe (areca nut).

***Asal Mula Kota Cianjur* (The Origins of Cianjur)**

This legend comes from the province of West Java which tells the story of the greed of Mr. Kikir, a rich, miserly middle-aged man. Mr. Kikir has a child who is contrary to his nature. His son is so generous and helpful. One day, a beggar came to ask for food from Mr. Kikir. The beggar was not given food, but instead, he was cursed at. The beggar was then angry and stuck a stick into the ground. Finally, a flash flood comes. Mr. Kikir's son tried to help the population and his father. However, Mr. Kikir does not want to be helped, he prefers to save his property. Mr. Kikir sinks with the current. Finally, the city was given the name "*Cianjur*" which means in Sundanese language that is "*air*" (water) and frequent flooding (Reza, 2010).

***Danau Toba* (Lake Toba)**

Lake Toba is the largest volcanic lake in the world in the province of North Sumatra, Indonesia. Once upon a time, there was a young man named Toba whose job was fishing. Toba managed to catch a fish that turned out to be an angel. Toba and the angel married and had children. One day, his son made a mistake that made Toba angry and cursed him as a child of fish. His wife was so angry and made their residence a lake. Finally, the lake was named "*Danau Toba*" (Ikranegara, 2008).

***Batu Menangis* (The Crying Stone)**

The Legend of Crying Stone tells about the curse on Jelita, a beautiful girl who lives with her elderly mother. Jelita is an only child but too spoiled. She was always rude towards her mother and treated her mother like a slave. Seeing her rude attitude, her mother cursed Jelita into a stone. After being cursed, Jelita regretted and often cried. The stone was finally given the name "*Batu Menangis*" located in West Kalimantan, a province in northern Indonesia (Komandoko, 2017).

METHODS

Research Design

This study used a non-equivalent comparison-group design method. This design was one of the strong quasi-experimental research designs (Johnson & Christensen, 2014). In this study, the researchers gave pre-test and post-test to students in the experimental and control groups.

After the treatment, researchers compared the conditions before and after treatment in two groups. The dependent variables were reading comprehension and learning motivation.

Table 1. *Non-equivalent comparison-group design*

Groups	Pre-tests	Treatments	Post-tests
Experimental	Reading Comprehension Test Motivation to Learn Scale	Indigenous Folktales Picture Books	Reading Comprehension Test Motivation to Learn Scale
Control	Reading Comprehension Test Motivation to Learn Scale	Traditional Textbooks	Reading Comprehension Test Motivation to Learn Scale

Participants

The participants consisted of 49 (27 males and 22 females) fourth grade students (aged 8-9 years) in two public elementary schools in Surabaya, Indonesia. A total of 26 students (14 males and 12 females) in Perak Elementary School were selected as experimental group and 23 students (13 males and 10 females) in Bubutan Elementary School as control group. The experimental group students were taught using folktales picture books, and the control group students were instructed using traditional textbooks. Both schools were the best schools in Surabaya. All students were from similar socio-economic and educational backgrounds. They were taught by two female teachers-aged 35 years old. Each teacher had teaching experience around 10 years and had a Bachelor of Education (B.Ed) degree from a local university. All teachers have been certified as professional teachers from the Indonesian Ministry of Education and Culture. This research was conducted from November to December 2019.

Instruments

Reading Comprehension Test (RCT)

The RCT, adapted from Barret's Taxonomy (1976), was used to measure students' reading comprehension skills. Barret's Taxonomy was used to arrange ideal questions in terms of sentences and indicators. The test had a 4-point Likert scale with a range from 3 (correctly and completely answered) to 0 (not answering). The maximum and minimum scores obtained by each student were 30 and 0. The rubric of the reading comprehension test is presented in Table 2.

Table 2. *The rubric of the reading comprehension test*

Sub-scales	Indicators
Literal understanding	Interpretation of information and express meaning
Reorganization	Grouping and decomposition of discourse content
Inferential Understanding	Predicting the character and character in the discourse
Evaluation	Determining opinions according to the content of the discourse
Appreciation	Giving a response to the content of the discourse

After feedback was given by 2 experts, RCT was tested on 35 students at Al Falah Elementary School Surabaya. The trial results were analyzed using the Product Moment correlation. The results of the item validity were categorized as valid if r_{observed} was 33.334. Table 3 showed that there were 10 valid items and 2 invalid items of 12 items in total. Therefore, 10 valid questions were used to measure students' reading comprehension in this study. The test reliability coefficient was .89.

Table 3. *The validity of the reading comprehension test*

Sub-scales	r_{observed}	r_{table} 5% (n=35)	p	Criteria
Item 1	.541	.334	.001	Valid
Item 2	.849	.334	.000	Valid
Item 3	.625	.334	.000	Valid

Item 4	.263	.334	.128	Invalid
Item 5	.700	.334	.000	Valid
Item 6	.828	.334	.000	Valid
Item 7	.249	.334	.150	Invalid
Item 8	.508	.334	.002	Valid
Item 9	.664	.334	.000	Valid
Item 10	.664	.334	.000	Valid
Item 11	.628	.334	.000	Valid
Item 12	.849	.334	.000	Valid

Motivation to Learn Scale (MLS)

MLS was used to evaluate student learning motivation from internal and external aspects. MLS was adopted from Sansone and Harackiewicz (2000) as presented in Table 4. The rubric had a 2-point scale, where "1" represented that students were motivated to learn and "0" indicated that students were not motivated to learn. The maximum and minimum scores obtained by students were 10 and 0 respectively.

Table 4. *The rubric of the motivation to learn scale*

Sub-scales	Indicators
Intrinsic Motivation	Ready for the upcoming task
	Strong in facing the task
	Willing to succeed
Extrinsic Motivation	Interesting activities in learning

The learning motivation was assessed into several indicators. The scale tested for 35 students showed that there were 10 valid items as the final version. The scale reliability coefficient was .83. The validity of the rubric can be seen in Table 5.

Table 5. *The validity of the motivation to learn scale*

Sub-scales	$r_{observed}$	r_{table} 5% (n=35)	p	Criteria
Students diligently work on assignments	.767	.334	.000	Valid
Students seriously work on assignments	.313	.334	.067	Valid
Students actively discuss with peers in working on assignments	.618	.334	.000	Valid
The student has given up on doing the assignment	.564	.334	.000	Valid
Students complete assignments on time	.590	.334	.000	Valid
Students actively ask the teacher about reading that is not yet understood	.590	.334	.000	Valid
Students pay attention to the teacher's explanation	.767	.334	.000	Valid
Students dare to show the results of answers in front of the class	.313	.334	.067	Valid
Students are enthusiastic about learning	.767	.334	.000	Valid
Students enjoy discussing with peers when working on assignments	.590	.334	.000	Valid

Procedures

After pre-test, students in both groups participated in learning activities for 4 meetings (2 x 35 min per session). The experimental group students used indigenous folktales picture books in the REAP (Read-Encode-Annote-Ponder) learning environment. Eannet and Manzo (1976) introduced REAP as one of the strategies to improve students' reading skills. At the beginning of this cycle, the teacher distributed picture books and taught them to read and then asked them filling in the REAP column. In the "*R*" column, students wrote the title of the discourse. In the "*E*" column, students wrote down the main idea. In the "*A*" column, students wrote people, characters, the value from the story. In the "*P*" column, students reflected what knowledge has been obtained. The teacher gave students question and answer activities related to the text to determine students' reading comprehension skills. At the last meeting, the teacher distributed a reading comprehension test and a motivation scale.

On the other hand, the control group students participated in the learning activities using traditional textbooks in the REAP setting. Students in the control group used textbooks without images. The teacher shared textbooks for students to read. After reading, students then filled in the REAP column. In the "*R*" column, students wrote the title of the discourse. In the "*E*" column, students wrote down the main idea. In the "*A*" column, students wrote people, characters, the value from the story. In the "*P*" column, students reflected what knowledge obtained. The last meeting was given a reading comprehension test and divided the motivation scale.

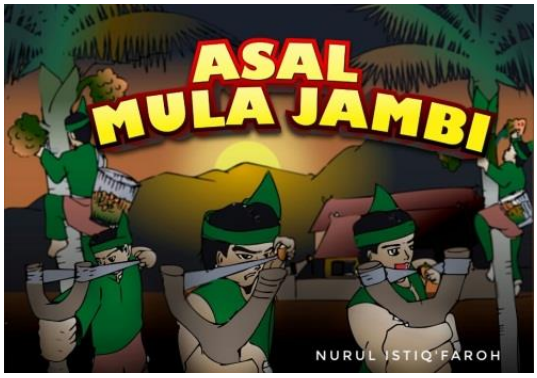
Data Analysis

Kolmogorov-Smirnov was used to test the normality of pre- and post-test data. After fulfilling the assumptions of normality and homogeneity ($p > .05$), parametric statistics were used. The score of reading comprehension and motivation were analyzed using paired-samples *t*-test. Then, the magnitude of the increase in pre-to-post-test scores was checked using n-gain formula (Hake, 1999); high, $g \geq .70$; medium, $.70 > g \geq .30$; and low, $g < .30$. In addition, the independent samples *t*-test was used to investigate whether there was a difference in scores on reading comprehension and motivation between the experimental and control groups. *t*-Tests were calculated in SPSS version 20 program and .05 significance level was used.

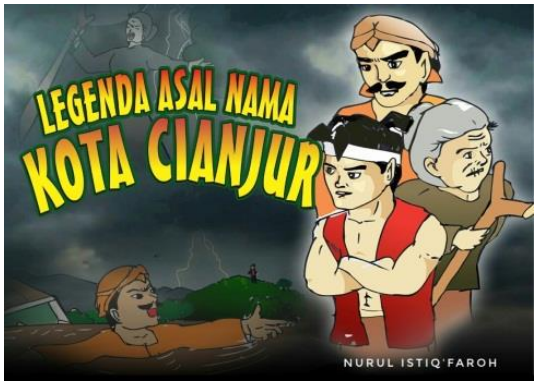
RESULTS

Development of Indonesian Folktales Picture Books

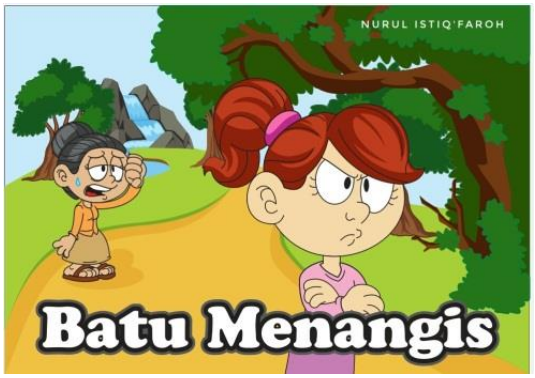
Indigenous folktales picture books were designed using the CorelDraw X7 application. Picture books are printed on art paper 297 x 210 mm, consisting of ten pages and one cover. These picture books were developed according to the fourth-grade elementary school curriculum (Ministry of Education and Culture [MEC], 2014). Topics related to Indonesian original folklore. The diction was selected according to the reading age of elementary school students, namely an easy language to understand. There are four folktales developed; The Origin of Jambi, The Origin of Cianjur, the Crying Stone, and Lake Toba. During the treatment, each picture book was implemented for 4 meetings. In addition to catalyzing the learning process, these books also aimed to make students aware of the history of the region and the culture. Indonesian folktales picture books are visualized in Figure 1.



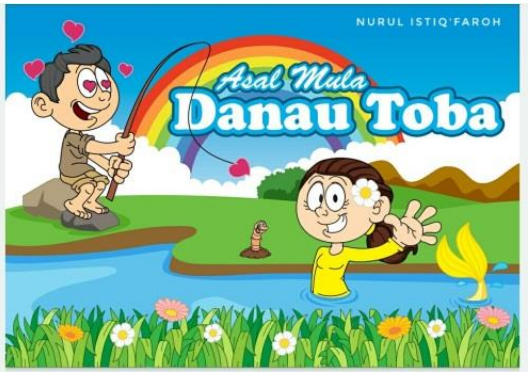
(a) The Origins of Jambi



(b) The Origins of Cianjur



(c) The Crying Stone



(d) Lake Toba

FİGURE 1. *Indonesian folktales picture books*

Effects on Student Reading Comprehension

To answer the research question, "Is there a significant increase in scores on reading comprehension skills and learning motivation between students in both groups before and after treatment?", a paired samples *t*-test was employed. The results are presented in Table 6.

Tabel 6. *The mean pre-test and post-test scores on reading comprehension*

Groups	Mean Scores		Gain	Criteria
	Pre-test	Post-test		
Control	50.04	61.34	.22	Low
Experimental	51.23	75.65	.50	Medium

Table 5 shows that scores on pre-test reading comprehension scores in experimental and control group students are equally the same. After treatment, both groups got an increase. But, the experimental group score was higher than the control group. The score increase in the experimental group was 24.42 with a gain of .50. It could be concluded that the reading comprehension of the experimental group students was higher than the control group after the intervention.

To find out if there was a difference in reading comprehension scores between students in the control and experimental groups, an independent *t*-test was conducted (see Table 7).

Table 7. *Independent t-test results on reading comprehension scores*

	Groups	*M*	*SD*	*df*	*p*
Pre-test	Control	50.04	13.723	47	.308
	Experimental	51.23	10.956		
Post-test	Control	61.35	13.357	47	.000
	Experimental	75.65	10.194		

Table 7 shows that experimental group students (M = 51.23; SD = 10,956) and control group students (M = 50.04; SD = 13.723) had an equal reading comprehension skills score. Based on Table 6, the p-value on the pre-test score was greater than .05, meaning that there was no difference in reading comprehension scores between students taught using picture books and traditional textbooks before treatment (p = 308). After treatment, there was a significant difference in reading comprehension skills scores between students in the experimental and control groups (p = .000). The scores of experimental group students (M = 75.65; SD = 10.194) were higher than control group students (M = 61.35; SD = 13.357).

Effects on Student Learning Motivation

To answer the research question, "Is there a significant increase in scores on reading comprehension skills and learning motivation between students in both groups before and after treatment?", a paired samples t-test was executed.

Table 8. *The mean pre-test and post-test scores on learning motivation*

Groups	Mean Scores		Gain	Criteria
	Pre-test	Post-test		
Control	50.43	64.34	.27	Low
Experimental	50.00	79.61	.59	Medium

Table 8 shows that the pre-test scores on control group students' learning motivation were slightly higher than experimental group students. After treatment, both groups increase. The results showed that the score in the experimental group was higher than the control group. The increase in score in the experimental group was 29.61 with a gain of .59. It could be concluded that the experimental group students' learning motivation was higher than the control group after the treatment.

Furthermore, independent samples t-test was used to find whether there was a difference in learning motivation between students in the control group and the experimental group (see Table 9)

Table 9. *Independent t-test results for students' learning motivation*

	Groups	*M*	*SD*	*df*	*p*
Pre-test	Control	50.43	13.307	47	.912
	Experimental	50.00	13.856		
Post-test	Control	64.62	10.789	47	.000
	Experimental	79.62	10.385		

Based on Table 9, there was no difference in learning motivation between students taught using folktales picture books and traditional textbooks before treatment (p = .912). After the treatment, there was a significant difference in learning motivation scores between students in the experimental and control groups (p = .000). The mean post-test scores of experimental group students (M = 79.62; SD = 10.385) were higher than the control group students (M = 64.62; SD = 10.385).

DISCUSSION and CONCLUSIONS

The effect of Indonesian folktales picture books on students' reading comprehension and motivation skills was analyzed. The books were designed with an attractive appearance and illustrations. The words were also easy to understand in motivating students to read. Using picture books made students easier to understand and get the content and information precisely. Chen and Hsiao (2014) confirmed that focalized illustrations in picture books easily arouse children's interest because visual representations had concrete examples and helped readers increase coherence between ideas (Levin & Mayer, 1993). Supportively, Gonen, Durmusoglu, and Severcan (2009) claimed that picture books were very important for students

to enrich concepts and provide various information through stories that combine words and pictures.

The combination of pictures and words in this book is different from other conventional textbooks in elementary schools. This argument is supported by previous studies, for instance, Arizpe and Styles (2003) emphasized that students are more interested in reading picture books than textbooks. In a meta-analysis, Levin and Mayer (1993) stated that text with illustrations had a positive effect on reading comprehension. Explicitly, Huang (2010) also suggested that attractive picture books could be used as a tool to improve students' reading comprehension. Thus, Indonesian folktales picture books are effective in improving reading comprehension skills while creating a pleasant learning atmosphere in this study.

After using picture books, the experimental group students' learning motivation increased significantly due to unique characters and illustrations in the book. In a study, Hsiao (2010) also proposed that beautiful picture book illustrations could attract children's attention, motivate them to read, and actively encourage them to participate in learning activities. In addition, the story in Indonesian picture books is close to daily life. This makes students more excited to read books and learn key concepts. This situation is designed so that students are interested in reading and building their own learning experiences. When students are enthusiastic to learn, their motivation finally develops according to their subjective experiences (Brophy, 2010; Marks, 2000). This is due to a positive relationship between motivation and reading activity (Kirchner & Mostert, 2017). In short, in this study, motivation for elementary school student learning can be promoted using folktales picture books.

On the other hand, the control group students do not show a significant change in the mean post-test scores in terms of reading comprehension and motivation. Thus, traditional textbooks are not effective in promoting students' reading comprehension and learning motivation to picture books because they cannot arise the imagination. For example, traditional textbooks are considered to have difficult lexical structures that create barriers for students' comprehension and learning of concepts (Kloser, 2016). In addition to the traditional structure and content of textbooks that force students to memorize facts, they generally place a high cognitive burden on students' ability to form mental representations (Elshout-Mohr & Van Daalen-Kapteijns, 2002; Kloser, 2016). Thus, these reasons affect the low reading comprehension and motivation of control group students. As a result, poor reading comprehension affects student success in learning.

The findings in this study are supported by the research result of Ma and Wei (2016) the use of picture books that increase the elementary school students' learning concentration effectively and prevent them from excessive electronic media interference. This is associated with the advantages of picture books in transferring information to the real world in order to support student learning (Strouse, Nyhout, & Ganea, 2018). In addition, the folktales picture books are also believed to help students get to know their environment. As expressed by Mitchell (2003), one of the benefits of folktales is that students are aware of their environment and recognize their world through cultural and historical perspectives. This indicates that when students succeed in linking prior knowledge to the context of their daily lives, they are more interested in learning, and in turn, improve their scientific attitudes and academic performance (Rohaeti, Prodjosantoso, & Irwanto, 2020; Saputro, Irwanto, Atun, & Wilujeng, 2019). This argument is in accordance with the principles of learning in a context-based learning environment that demands to activate students' thinking, motivate them to learn, and drive them to be scientifically literate (Bennett & Holman, 2002; Fadli & Irwanto, 2020; Irwanto, Saputro, Rohaeti, & Prodjosantoso, 2018, 2019).

In conclusion, this study shows that the scores of experimental group students' reading comprehension and motivation increase after using picture books compared to control group students. By using indigenous picture books in Indonesian language lessons, students are more communicative in recognizing simple words and sentences so that they have high motivation to learn. Thus, this study shows that folktales picture books are effective in improving students' reading comprehension and motivation. Through picture books, students are also more enthusiastic, pay more attention to the teacher, and interested in reading. This has a positive

impact on improving reading skills and student learning achievement. As such, the current findings can be used by teachers to create other meaningful and relevant content by linking them to local culture.

Although this study is effective in improving student learning, several limitations are found. First, picture books are limited to a small fraction of native Indonesian folktales. For further research, picture books need to contain more stories such as fables, fairy tales, and sage. Second, this study involves a fairly limited sample. It is recommended to recruit a wider sample by comparing the effects of picture books on students in urban and rural areas to obtain comprehensive findings. Third, it is necessary to explore the effect of picture books on elementary school students' behavior, attitudes, character, and social values.

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