



Overcoming Student's Reading Fluency Difficulties with the Oral Reading Fluency Learning Model during the Pandemic

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Abstract

This study aims to produce learning models that develop students' oral reading fluency skills. The development research method used the Plomp model, comprising preliminary research, prototyping phase, and assessment phase. Research findings showed that students needed oral reading fluency skills in the learning process during a pandemic and teachers needed special learning models to improve students' reading skills. This study produces a prosody-based oral reading fluency learning model to improve students' reading fluency with the advantages of a learning model that pays attention to the development of fluent reading skills of elementary school students in grades 1-3. The results of its application reveal that the oral reading fluency learning model is quite effective to be applied in elementary schools because the model specifically concentrates on developing reading fluency and students can read well if they pay attention to pauses, intonation, and expressions.

Discipline: Elementary Education (Children's Cognitive Development, Children's Reading Ability, Language Learning).

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1 Introduction

Learning to read fluently begins in the lower grades of elementary school. In this case, learning oral reading fluency skills in first grade is focused on the speed and accuracy of students' reading (Young & Nageldinger, 2014). In the second grade, fluent reading is emphasized on pauses,

intonation, and voice expression in reading. Learning oral reading fluency skills in third grade is highlighted in pause, intonation, voice expression, and students reading comprehension (Young et al., 2016).

Learning oral reading fluency skills can teach students to read towards understanding the meaning of reading in the third grade of elementary school (Paige et al., 2012) and make it easier to master the expressions in reading texts (Topping, 2014). Students can read by raising and lowering the sound of phrases in sentences, and understand the use of punctuation in sentences. Thus, students can read by stopping at the right place to understand the reading contents more easily (Tekşan & Alkan, 2020). It indicates that learning to read fluently is crucial in elementary schools.

However, reading fluency skills in Indonesian students has decreased since the pandemic. In fact, students had difficulty reading texts and teachers still have not found the right solution to overcome the problems. The problem of oral reading fluency skills does not only occur in Indonesia but has often occurred in various countries, such as Turkey and Chile. Turkey offers a solution in the form of an interactive aloud reading program and the program focuses on reading fluency skills (Ceyhan & Yıldız, 2020). Meanwhile, Chile offers a reader's theater program to improve reading fluency for fourth graders of elementary school and successfully improves students' prosody in reading fluently (Quezada, 2021).

The reading fluency solutions offered in Turkey and Chile do not match the problems currently facing Indonesia. The problems in Indonesia in the lower class are more focused on students' oral reading fluency skills. For this reason, designing the latest learning model is necessary to overcome the problems faced in the lower classes of Indonesian elementary schools. Thus, producing a learning model that specifically concentrates on the development of oral reading fluency skills of elementary school students using prosody is the novelty offered in this study.

2 Literature Review

2.1 Oral Reading Fluency Skills

A recent review of research has shown that fluent reading has two main components associated with an adequate level of reading comprehension: automatism in word recognition and prosody in oral reading fluency skills (Allington, 2014; Young & Nageldinger, 2014). Both components are related to the level of observable text processing (Muroya et al., 2017; Paige & Magpuri-Lavell, 2014). Fluency in reading is the skill of mastering codes in the form of words by paying attention to automation in word recognition, speed of word-to-word transfer, prosody or expression in oral reading fluency skills, and accuracy in translating codes towards achieving the decoding process and understanding of reading texts (Biancarosa & Cummings, 2015; Kocaarslan, 2017; Muroya et al., 2017; Paige & Magpuri-Lavell, 2014).

2.2 Prosody Learning

Prosody is also the ability of the reader to change pauses and intonation, utilize vocal expressions for scaffolding, and convey a meaning when reading aloud (Deacon et al., 2018). In

addition, the best way for students to develop oral reading fluency skills is to listen to how other readers read the text more fluently. In practice, educators need to read aloud to students meaningfully and expressively (Samuels, 2006). While reading, it is necessary to direct the student's attention to slow down in certain parts and speed up in other parts of the reading. In addition, it is essential to change the voice when it becomes a different character. Then, raising and lowering the pitch and volume of the reading at other points are necessary and it is also necessary to mark punctuation with a pause to add meaning beyond the text itself.

3 Method

The method used in conducting this research was the education design research method with the Plomp development research model. The Plomp development research model has three stages: preliminary research, prototyping, and assessment phase (Plomp, 2010).

3.1 Research Design

In the preliminary research stage, needs analysis, curriculum analysis, and student characteristics were carried out. Next, in the prototyping stage, a product design was made. The teacher evaluated the finished product design and the expert evaluated the prototype. Researchers revised product results from expert notes and continued with a one-to-one evaluation process, small group evaluation, and field tests in selected schools. When tested, the researchers observed using and applying the oral reading fluency learning model (Plomp, 2010). In the final process, the researchers discussed the responses of teachers and students about learning oral reading fluency and tested the use of the prosody-based oral reading fluency learning model in elementary schools.

3.2 Participants

The subjects of this study were third-grade elementary school students and teachers in West Sumatra Province, Indonesia. The population was lower-grade students in Indonesia. Meanwhile, the sample was the third-grade students in West Sumatra Province: SD Negeri 13 Lolong, Padang City, SD Negeri 22 Lubuk Minturun, Padang City, MIN 3 Padang City, MIN 1 Pariaman City, MIN 2 Pariaman City, SD Negeri 03 Kampung Jawa, Solok City, SD Negeri 23 Payakumbuh, and An-Nahl Private Integrated Islamic Elementary School in Lima Puluh Kota Regency.

3.3 Data Collection Tools

The instruments employed in the preliminary research included observation sheets for the model used and fluent reading, questionnaires for students' needs, and interview sheets. Meanwhile, the instruments utilized in the prototyping stage were a self-evaluation questionnaire with the Guttman scale (Gothwal et al., 2009); an expert review questionnaire with a Likert scale (Wu & Leung, 2017); questionnaire of students' responses to the prototype's practicality; teacher's response questionnaire on the prototype's practicality; guidelines for interviewing students' responses and teacher response to the prototype's practicality; observation sheet on the use of the prototype model; and anecdotal notes.

3.4 Data Analysis

A normality test for the N-Gain data is used to determine whether oral reading fluency abilities were normally distributed or not. The researchers calculated the normality test results with the Kolmogorov-z test. Then, the researchers conducted the Wilcoxon and homogeneity tests. The calculation of the homogeneity test used the Levene test statistical test (Arbuckle, 2007). For hypothesis testing, the Mann-Whitney test is used to examine the difference between the two N-Gain means. Data were processed using SPSS®22 and analyzed using a nonequivalent control group design. Data on oral reading fluency skills were then analyzed quantitatively using statistical tests. The difference in the mean of the N-Gain data test was taken using an independent sample t-test.

4 Result and Discussion

4.1 Profile of Oral Reading Fluency Skills of Elementary School Students

The results of the preliminary activity stage began with prayers and greetings. The teacher checked the students' attendance and directed the students to think and recall learning. Teachers and students did activities to ask and answer questions. The teacher also conveyed the objectives of today's lesson. However, apperception activities were often not carried out by teachers.

The core activity stage started with pre-reading activities, reading activities, and post-reading activities. Most teachers did not carry out the process of learning to read by guessing the contents of the story. Students tended to use reading texts directly. During learning, there were still activities of the teacher reading and the students listening to the reading text. There was also a learning process carried out by rotating reading activities. Students were randomly assigned to take turns reading. The action was continued by asking questions about the contents of the reading text.

Table 1: Oral reading fluency learning for elementary school students

Item	Indicator	Score	Value
1	Preliminary activity Stage	31	88.57
2	Core activity stage	13	37.14
	a. Guessing		
	b. Prosodic modeling	15	42.86
	c. Decoding and prosodic tutor	10	28.57
	d. Independent reading	21	60
	e. Communication	21	60
3	Closing activity stage	29	82.86
	Total		400
	Mean		57.14

However, the teacher never did reflect on the question-and-answer activity about how to read fluently that the students had not mastered. Moreover, the syntax design in the prosody-based oral reading fluency learning model adopted the main elements of the reading process combined with the fluent reading method. The prototypes for the prosody-based oral reading fluency learning model syntax are guessing, prosodic modeling, decoding, prosodic tutors, independent reading, and

communication. Table 1 is data on learning to read fluently in elementary schools in several West Sumatra Province schools.

Two learning model experts validated the fluent reading learning model instrument. The validators provided suggestions for improving the preparation of the instrument model used, namely: (1) change the theoretical descriptor of the prosody model assisted by the tutor in point 4 according to the theory used; (2) pay attention to the arrangement of points for the assessed aspects; (3) availability the support system was in the form of children's story books, picture media, lesson plans, and teacher guide books; (4) directing sentences to assess the model; (5) sort urgency of the oral reading fluency theory components; (6) completeness of the theoretical indicators of the prosodic method; (7) directing the theory of the reading process on the model document; (8) based on social systems theory; (9) linking items with available support systems adding items about the philosophical foundation of the model; and (10) there is an item about visualizing the model syntax. After the instrument is complete, the model instrument obtains a validation value. The following are the results of the validation of the prosody-based oral reading fluency learning model instrument.

Table 2: Validation of prosody-based oral reading fluency learning model instruments.

Item	Indicator	Value
1	Rationale	100
2	Philosophical foundation	25
3	Model syntax	125
4	Social system	25
5	Reaction principle	25
6	Support system	25
7	Instructional impact and accompaniment	50
	Total	375
	Mean	5

4.2 Development of Prosody-Based Oral Reading Fluency Learning Model

The prosody-based oral reading fluency learning model was developed based on the theory of oral reading fluency proposed by Samuel and Rasinsky in 1974. This component of the theory of oral reading fluency is the primary basis for developing and compiling the syntax of a prosody-based oral reading fluency learning model. The prototype syntax of the prosody-based oral reading fluency learning model initially consisted of five syntaxes: guessing, prosodic modeling, early decoding tutor, independent reading, and communication. After going through the validation process, the syntax of the model includes guessing, prosodic modeling, decoding, prosodic tutors, independent reading, and communication.

4.2.1 Guessing Syntax

The first syntax is guessing syntax. The learning process for oral reading fluency used a text entitled "Playing Ludo." The activity began with a question-and-answer session about students' experiences playing ludo, the tools used in playing ludo, boxes in playing ludo, and colors in playing ludo. The pictures then showed images via liquid crystal display. Before reading the text,

the teacher conducted a question-and-answer session about fluent reading. The teacher explored students' schemas about pauses, intonation, and voice expressions. The teacher explained about pause is the process of stopping reading by paying attention to the punctuation marks in the reading text. The process of explaining the understanding of prosodic elements was accompanied by a question-and-answer process with students about their experiences of reading and listening to students' stories.



Figure 1: guessing syntax

4.2.2 Prosody Modeling Syntax

The second syntax is the prosodic modeling syntax. The teacher distributed story books to the students in the class and asked the students to first listen to how to read the story correctly. After that, the teacher gave an example of just one paragraph to minimize the noise in the class.



Figure 2: prosody modeling syntax

4.2.3 Decoding and Prosody Tutor Syntax

The teacher invited students to read and the students read each sentence fluently. The teacher reminded the students about the pauses and provided example sentences. One student wanted to precede reading. After that, the students read in the same way. Then, the teacher directed students to read in groups and guided each group to read one paragraph in turn. The students got directions to read fluently in pairs. The teacher also asked if they found a way of reading that was less friendly than their friends, they should remind and show the correct way.



Figure 3: decoding and prosody tutor syntax

4.2.4 Independent Reading Syntax

The teacher took five minutes to practice reading fluently independently. Students returned to practice reading fluently independently. The teacher focused the students' attention on the habits created in their school and clapped to encourage the students. Students came to the front of the class according to their wishes and desires without coercion from the teacher. Students tried to read fluently independently by reading the text in front of the class. The teacher also reminded parts of the text that were still being read with inaccurate intonation.



Figure 4: Independent reading syntax

4.2.5 Communication Syntax

The teacher asked students to close the storybooks on their desks and ask the students to collect the books in front of the class. Afterward, the students take out their writing instruments. The teacher handed out a piece of plain HVS paper to rewrite the story in their language. The teacher asks them to rewrite the story they read in their language for 20 minutes. Students reread the stories they wrote in their language in front of the class.



Figure 5: communication syntax

4.3 The Effectiveness of the Prosody-Based Oral Reading Fluency Learning Model

The trial of the learning model was conducted in several schools to test its effectiveness. The experimental class was held at SD Negeri 03 Kampung Jawa, Solok City, An-Nahl Private Islamic Elementary School, Lima Puluh Regency, SD Negeri 22 Lubuk Minturun, Padang City, and Madrasah Ibtidaiyah Negeri 2, Pariaman City with 53 students. Meanwhile, the control class was held at Madrasah Ibtidaiyah Negeri 3 Padang with 53 students.

Table 3: N-Gain Test

Descriptives					
NGain_Persen	Class	Statistic		Statistic	Std. Error
	Experiment	Mean		56.958	3.373
		95% Confidence Interval for Mean	Lower Bound	50.189	
			Upper Bound	63.727	
		5% Trimmed Mean		57.707	
		Median		57.146	
		Variance		603.148	
		Std. Deviation		24.559	
		Minimum		.00	
		Maximum		100.00	
		Range		100.00	
		Interquartile Range		39.16	
		Skewness		-.389	.327
		Kurtosis		-.377	.644
	Control	Mean		18.777	2.032
		95% Confidence Interval for Mean	Lower Bound	14.699	
			Upper Bound	22.854	
		5% Trimmed Mean		17.936	
		Median		16.675	
		Variance		218.826	
		Std. Deviation		14.793	
		Minimum		.00	
		Maximum		57.15	
		Range		57.15	
		Interquartile Range		17.47	
		Skewness		.559	.327
		Kurtosis		-.174	.644

Based on Table 4, the mean N-Gain score for the experimental class was 56.9580 or 56.96% or 57%, which was included in the quite effective category. Meanwhile, the mean N-Gain score for the control class was 18.777 or 18.78% or 19%, including in the ineffective category.

4.4 Discussion

4.4.1 Research Design the Prosody-Based Oral Reading Fluency Learning Model

The syntax design of the prosody-based oral reading fluency learning model to improve the fluent reading ability of elementary school students adopted the main elements of the reading process combined with the fluent reading method. The prototype syntax of the fluent reading

learning model included: guessing, prosodic modeling, decoding, prosodic tutors, independent reading, and communication.

The guessing syntax was adapted from the initial reading process. The process of guessing the syntax is done by predicting the continuation of the story read by the teacher (Akyol et al., 2014; Hadley & Charles, 2017). Another activity is using various stimuli to keep students' attention on the lesson, including using various sounds, movements, and facial expressions (İlter, 2017; Kim et al., 2018). Finally, guessing activities can also be done by asking questions about the title or topic of the study that can be replaced with an image media or parallel to both (Boer & Jong, 2018; Kuruyer et al., 2017).

The prosody modeling syntax was adapted from the fluent reading modeling method for students. The activity is to model the correct fluent reading process by people who have fluent reading skills. In practice, teachers need to read to students meaningfully and expressively (Rasinski, 2014; Topping, 2014).

Decoding and prosody tutor syntax was adapted from the assisted reading method. The fluency of mastery of decoding obtained through the assistance provided to students resulted in the ability of students to read decoding texts fluently with a higher level of fluency and understanding. The fluent reading process can be through reading groups and side-by-side guidance. When reading in groups, yesterday's less fluent readers were supported by listening to other members of the more fluent group reading the same word simultaneously. Finally, the practiced text can be read independently (Samuels, 2006).

The independent reading syntax was adapted to the broad and deep reading practice method. Students need to learn to read independently by applying the prosodic word they have learned. Repeated reading in independent reading is a powerful tool for developing fluency in struggling and reading skills (Rasinski et al., 2016). The effect of practicing with successively more challenging texts will also lead to an increase in fluency, comprehension, and overall reading achievement.

The communication syntax resulted from adopting a combination of one of the post-reading processes and the main component of reading literacy. Post-reading activities help students integrate the new information they read into the schemas they already have to obtain a higher understanding level (Helder et al., 2017; Spencer & Wagner, 2018). One of the post-reading activities and demands in reading literacy is communication. Operational activities carried out in communication syntax include questioning and answering about the contents of the reading text, telling the contents of the reading text in their language, and telling in writing or orally.

4.4.2 The Impact of the Prosody-Based Oral Reading Fluency Learning Model on Students' Ability to Read Fluently

The research was conducted to create a practical and effective learning model for developing fluency reading skills in the lower elementary school grades. This model produces the latest learning syntax in applying learning that can develop the fluent reading ability of elementary

school students. The syntax of the oral reading fluency learning model was also designed based on the components of the reading process and the prosodic method.

Based on the findings, the students' fluency test scores in the research schools experienced an increase in the results of the fluent reading ability test. The improvement of reading fluency test results was analyzed based on the pre-test and post-test scores of students' fluent reading ability in each school before and after using the oral reading fluency learning model with the prosodic method. The research findings also showed that the pre-test and post-test scores of students' fluent reading ability through the oral reading fluency learning model using the prosodic method were higher than in the conventional learning model. In line with this finding, the prosody-based oral reading fluency learning model is also effectively used in second to third secondary schools (Protopapas et al., 2018).

Students could apply the use of pauses, intonation, and voice expressions in fluent reading after learning with the oral reading fluency learning model using the prosodic method. Students could also place pauses between sentences, pauses between phrases, and pauses between words (Young et al., 2016). Moreover, students could read by paying attention to the use of punctuation in the reading text. The students' intonation when reading the reading text was clearly visible. They could raise and lower the pitch of their voice while reading. They even changed the sound pattern while reading.

5 Conclusion

From the results and discussion, it finds that the prosody-based oral reading fluency learning model is effective for improving oral reading fluency in elementary schools. However, special attention needs to be given to the process of developing students' oral reading fluency skills, teachers are needed to be trained to have oral reading fluency skills, and further research needs to be carried out in various regions and different student backgrounds to improve oral reading fluency with high quality. Also, other researchers can take advantage of and examine more deeply the process of developing students' fluent reading skills and prosody-based oral reading fluency learning models by applying learning methods and media in other forms of innovation.

6 Availability of Data and Material

Data can be made available by contacting the corresponding author.

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