

## **The Effectiveness of Fluency Building Technique in Teaching Phonic and Vocabulary to Improve Reading Outcome in Slow Learner Children**

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Slow Learner (SL) is a term that is used to classify children with borderline intellectual disability or those who are mildly intellectually disabled. Research found that slow-learning children are likely to be three times slower in reading rates with general reading comprehension difficulty compared to their faster-learning peers. While standard methods can be improve reading fluency and comprehension, slow-learning children need special attention and creative solutions that will be critical in improving their reading fluency. this research aims to investigate whether phonics and vocabulary Fluency Building techniques can be effectively combined to improve slow-learning children's fluency. The research was conducted with 15 participants that is children in the first semester of kindergarten at Sekolah Esa and Palm Kids Schools who had been diagnosed with mild or borderline intellectual disabilities divided. The research has found that the Fluency Building technique is an effective approach to support the learning of slow-learning children. This research has illustrated that the cognitive ability of the students is a small hindrance to their reading ability. Hence, these techniques can be incorporated into the individual teaching approaches dedicated to improving the reading fluency of students.

*Keywords:* effectiveness, fluency building technique, teaching phonic, vocabulary reading, slow learner children

Slow-learning children have often been reported to experience reading difficulty as their primary problem in the academic field. Approximately 80% to 90% of slow-learning children have reading problems and are referred to intensive reading instruction programs (Fletcher et al., 2007). Research has also shown that slow-learning children have frequent problems specifically related to reading fluency and reading comprehension. Past research found that slow-learning children are likely to be three times slower in reading rates with general reading comprehension difficulty compared to their faster-learning peers (Jenkins et al., 2003).

Slow Learner (SL) is a term that is used to classify children with borderline intellectual disability or those who are mildly intellectually disabled (Shaw, Grimes & Bulman, 2005). Borderline intellectual disabilities are characterized by a limitation in the degree of cognitive or intellectual functioning that affects the rate of learning and acquisition of adaptive skills. According to Mackay (2001), children with borderline intellectual disabilities are those who are substantially below average in general intellectual functioning, and whose thinking skills when considering the norm for their age are significantly slower to develop.

Based on the results of data analysis, it has been estimated that about 15% to 18% of the general school population in Indonesia are considered slow learners (Trisoulo, 2013). A large number of SL children are placed into the regular education curriculum and expected to perform at a level equivalent to above-average students in the classroom. There is no standardized curriculum for SLs designed by the Ministry of Education in Indonesia or the Curriculum Development Center. Thus, these children follow the same lessons as average and above-average children, as well as sitting the same tests and assessments, and eventually risk being left far behind.

As SLs always have deficits in basic literacy skills, and approximately 80% of them experience significant problems in learning to read, strategies should be developed to aid their comprehension, given that reading is a primary skill in all academic learning processes and all curriculum areas in Indonesia. However, schools that include slow learners in regular classes do not provide special education services, particularly for the reading instruction program.

Reading problems, while not universal, are persistent among slow-learning children, and growing evidence has suggested that difficulties in reading these children experience become worse over time and are present during their whole school career (McGill-Frazen & Allington, 1991). Failure to provide an effective intervention in the form of a reading program for slow-learning children may contribute to continued difficulties in reading throughout the entire schooling process, which is likely to result in poor performance in most subject areas, and thus has a detrimental lifelong impact and serious negative consequences.

There has been a considerable amount of research testing various approaches and techniques for developing reading skills among slow-learning children. However, despite progress being made recently with regards to educating the slow-learner children,

there is still restricted exploration on the most ideal approach to teach them to read. Most research on slow-learning children in reading intervention programs has tended to show consistent findings in children's ability to comprehend the meaning of text after the program has ended. Past research has found that nearly half of the 60% of slow-learning children who attended reading intervention programs did not make any gains in reading comprehension (Browder, 2006). According to Togersoon et al. (2003), slow-learning children are still far from achieving even basic literacy. Bentum and Aaron (2003) reported that even when slow-learning children acquire word-reading skills, their ability to read proficiently and comprehend the meaning of the text is still limited. Moreover, Kaltims (2001) found that only one in five children with borderline intellectual disabilities achieved minimum literacy skills, and that these children still did not fully process the meaning of the connected text.

Clearly, data from previous research demonstrates that slow-learning children do not have good outcomes in reading ability after enrolling in reading intervention programs, as they constantly struggle to comprehend the meaning of the connected text.

Reading fluency has been viewed as a critical skill to master and is generally defined as the rate at which text is read accurately and with expression (Basaran, 2013). Furthermore, comprehension of the text is often believed to be impacted by fluency in reading (Paige & Magpuri-Lavell, 2014). Theories suggest that in order to have the mental resources to comprehend the meaning of text, the reader must be fluent. Fluent readers are able to switch their attention instantaneously from word decoding to understanding the meaning of the text being read (Chard, Tyler & Vaughn, 2012). This supports the idea that reading fluency and reading comprehension are inextricably linked by positive correlation (Chard, Tyler & Vaughn, 2002). In a study by Jenkins et al. (2003), it was found that students with borderline disabilities had reading

comprehension problems due to poor fluency in reading. The data showed that students with borderline disabilities performed between two and 15 grade levels below average in reading compared to their peers. The authors explained that these students' inefficient word recognition skills were taxing attentional resources and consuming the memory resources that were needed for comprehension.

Another fundamental foundation skill that promotes reading fluency is known as Fluency Building (FB); this method has had over four decades of success in improving fluency skills (Johnson & Street, 2004; Kubina & Starlin, 2003). Generally, FB is a technique that is designed to build a child's mastery of component skills by developing appropriate speed while emphasizing accuracy in key elements (Binder, 1990; 1991). Recent studies have repeatedly demonstrated that Fluency Building can facilitate growth in reading fluency (Therrien, 2004) for students with mental disabilities (Sulgrove & Mclaughin, 2004; Cavallini et al., 2008). Research in FB shows that proficiency in phonic skills plays a critical underlying role in the acquisition of the decoding skill that is central to reading fluency; these impacts reading comprehension.

Up until now, vocabulary has been identified as one of the most essential components of reading skill acquisition. Several researchers have provided evidence that vocabulary is strongly linked to reading comprehension (Joshi, 2005; Manyak & Bauer, 2009; Martin-Change & Gold, 2008), and it is considered an important variable that affects reading comprehension in both first and second language learning (Alderson, 2000; Jhosi,

2005; Ricketts et al., 2007). Taken together, the results of these studies have provided clinically useful information regarding the role of vocabulary fluency that needs to be considered. However, the direct impact of vocabulary on FB has not been investigated. The principal aim of the present study is to investigate Fluency Building techniques in phonic skills and in vocabulary knowledge taught to slow-learning children in order to determine whether it will result in better reading comprehension skills.

The primary objective of this research is to examine the effectiveness of implementing Precision Teaching for the combination of the component skills in phonic and vocabulary knowledge among slow-learning children in order to produce effective learning outcomes in reading fluency, reading comprehension, and the ability to generalize and maintain reading skills after the intervention program. Therefore, given the importance of reading in providing access to the general curriculum, it is important to include it as a primary area of instruction for borderline intellectually disabled children. According to Nofrian (2013), the reading skills of borderline intellectually disabled children in Indonesia are still far from satisfactory. For this reason, application of Fluency Building approaches to the education system and instruction in reading for borderline intellectually disabled children can be used as effective tools for reading instruction as well as prevention strategies to decrease the number of reading problems among children with borderline intellectual disabilities. Thus, the study proposes a conceptual framework (Figure 1):

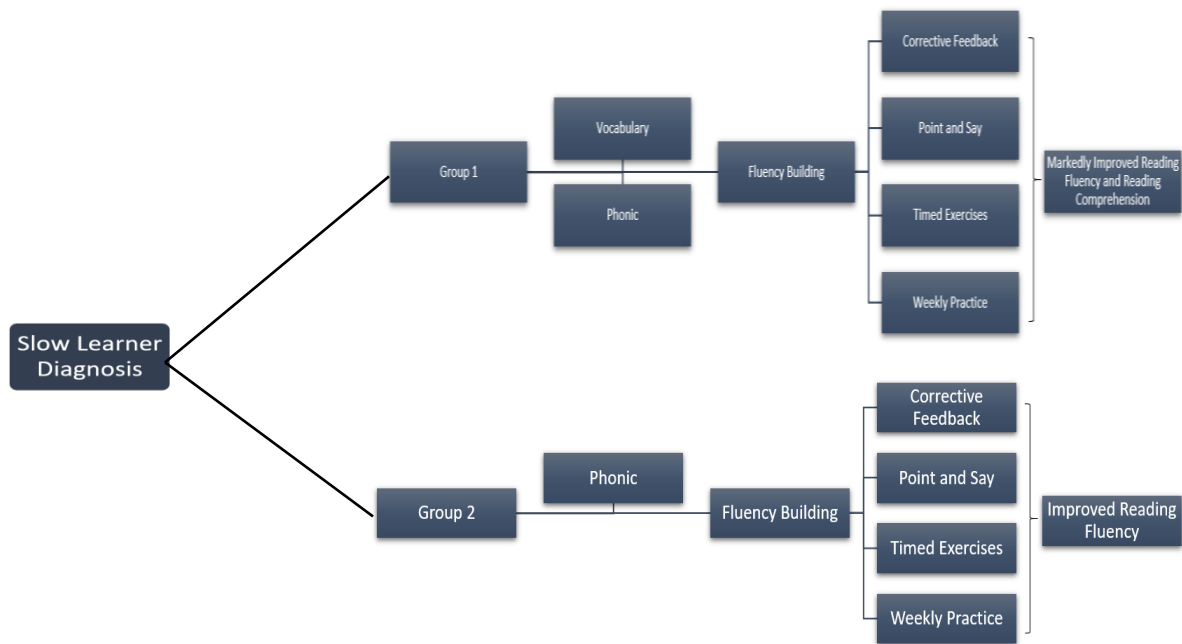


Figure 1 conceptual framework

**Method**

**Participants**

The research uses a non-probability sampling method where purposive sampling is employed in the selection of the participants. In this sampling method, the searcher makes judgments about the participants that should be included in the research. This sampling method allows the researcher to use a wide range of other sampling techniques as the objectives of the study are essential in determining the direction of the research (Ames, Glenton, & Lewin, 2019). In total, 15 children participated in this study. Participants of the study is children in the first semester of kindergarten at Sekolah Esa and Palm Kids Schools who had been diagnosed with mild or borderline intellectual disabilities were invited to participate in this study.

The study employed a pre- and post-experimental design with control conditions. 15 children were assigned randomly into three groups of five: experimental group 1 for Fluency Building in phonics and vocabulary; experimental group 2 for Fluency Building in phonics; and a control group, who underwent no practice in Fluency Building.

**Instrument**

**Materials**

The research on Fluency Building techniques uses multiple materials to carry out the research and assess whether the participants are qualified to partake in the study. The Wechsler Preschool and Primary Scale of Intelligence was one key tool used in the research where its role is to determine a child’s verbal and overall intelligence. This tool is suitable for children between 2 and 7 years of age (Wechsler, 2012). This tool ensures that participants fulfill the criteria of having a mild intellectual disability. This tool tests cognitive ability by using a variety of visual, verbal, and spatial tasks. The test is conducted individually and takes approximately 90 minutes. The other key tool applied was the oral language screening test which is a quick language screener administered to all children to determine those that are yet to master foundational language skills. The tool tests how well a child performs on expressive and receptive language and tests their preschool knowledge. There are ten subsets considered in the screening process where children are required to answer questions that are

conducted orally on each of the ten subsets. The worksheet is another material that illustrates the extent of the research, and there are three works sheets. These three worksheets are for word reading fluency, word fluency, and vocabulary fluency. In each session, the student had three opportunities for each of these worksheets. Another key material in the research includes the probe sheets, which were used as an endpoint measure of reading performance and were key for baseline and post-test measures. Recording sheets, reading comprehension tests, timer, flashcards, and standard celebration chart for displaying performances from timed probes, were all integral in ensuring that the research was successful.

### **Procedure**

The procedure of the research could only begin following consent, approval, and clearance obtained from the region's research governing body. The initial phase of the research was to diagnose children with mild intellectual disabilities, followed by tests in language skills and letter-sound correspondences. Once children met the inclusion criteria, their parents were contacted, and the research explained to them or guardians to extract informed consent. Time for training was scheduled once parents granted their informed consent. This is research that would be carried out for 22 months where the participants were in 2 20-minute sessions every week. A week before the research began, the participants were tested on three measures; point and read words, point and say phonics, and read and point to appropriate pictures. Once the children answered questions, their performance was recorded, which was crucial in the future to determine the progress made by the students.

Rate building is one key practice that served as an experimental condition in the drill reading exercise. This was a practice undertaken in a timed exercise of one minute where the participants were expected to complete as many tasks as possible. Doughty, Chase, and O'Shields (2004) note that rate building has a

positive impact on speed, accuracy, as well as claims of improved retention. The children were encouraged to reach their targets, and fluency practice children were coached to perform as fast as they could where the drill was timed at 30 seconds. The quantitative practice was also applied to the control group, where there were no time limits. The probe control condition participants were examined once a week. The probe sheets were individualized depending on the participant's skill. The reinforcement system was also integral to the experiment and involved participants being encouraged to break speed records where they would receive ink stamps that they would turn in for one gift. Letter sound correspondence was the next aspect of the research, where flashcards containing 23 lowercase letters were used in the teaching of phonics. The reason lowercase letters were taught first is that they are most dominant in reading materials. Piasta and Wagner (2010) indicate that teaching letter-sound correspondence is significant because it is fundamental in teaching reading. The teaching process involved teaching one letter sound at a time where a new letter was introduced once research participants could recognize and sound the previously taught letters. The teaching sessions were individual and lasted 10 minutes. There were two sessions each week. Phonics fluency was implemented for the two experimental groups, while the control group engaged in a review of letters without any imposed time limit. Fluency teaching in phonics for the experimental group would begin after the participants could recognize letters and sounds in a given time frame.

### ***Sounding out Words***

After students in the groups had mastered between 4 and 6 phonics or letter correspondence, instructions on how to read words would be started. The instructions for sounding out words would begin by instructing students on how to sound out regular letters and each word. This process was repeated until the participant could respond without any leading. The task was repeated until the participants could sound all the words. Chard

and Osborn (1999) support that sounds and spelling should be the most fundamental strategy for word recognition.

**Sight Reading**

The introductory part of the process involved a transition from sounding out words to reading them. Then the researcher would say the word out loud, following the instructions from the teacher. The teacher demonstrated the whole process of saying the word sub-vocally and then saying it aloud at the normal rate. Sight-reading is a significant issue for most children that are struggling to read, and this makes it vital for fluency development (Ming & Dukes, 2008).

**Passage Reading**

Passage reading was another section of the research where the students were asked to say the words at a normal rate. The students were first introduced to passage sight-reading, where they were instructed to read words in a text as they were expected to read out the word to themselves before sounding it out at a normal rate. Once students could accurately sound words to themselves accurately, fewer prompts by the researcher were used.

**Word Reading and Vocabulary Fluency Practice**

Word reading fluency practice was implemented for the participants in the two experimental groups. While the children in the

experimental groups received two 15 minutes sessions each week, those in the control group had no time frame. Fluency word reading was implemented once the participants could accurately read words at a normal rate without sounding them out to themselves. The participants were tasked with reading as many words on the sheet as they could within 30 seconds, and they could skip words that they may find difficult. Feedback and corrections were provided once the practice was completed. Vocabulary instructions were provided to children only in the first group, and they received one-on-one 15-minutes sessions. These sessions were carried out every week, and the practice would take two months.

**Data Analysis**

In this research, the researcher used a quantitative data analysis technique. All statistical analysis was carried out using SPSS version 14 to the alpha value of 0.5 except for the test homogeneity of the variance covariance matrix, where alpha = 0.001.

**Result**

**Preliminary Tests For Assumptions For ANCOVA**

**Normality test**

The research variables were assessed to determine the normality of their distribution. Test result in Table 1.

Table 1

Normality test for all research variables at pre-and post-test

Variables	Skewness	Kurtosis
Phonic Fluency Pre-Test	0.149	-2.308
Phonic Fluency Post-Test	0.137	-1.353
Reading Fluency Pre-Test	2.006	3.384
Reading Fluency Post-Test	0.527	-5.29
Vocabulary Fluency Pre-Test	-0.1	-1.07
Vocabulary Fluency Post-Test	0.785	-1.612
Reading Comprehension Pre-Test	0.452	-0.632
Reading Comprehension Post-Test	-7.62	-1.406

Two prominent measures of normality, skewness and kurtosis, were applied. If

applying this technique, statistical values for skewness and kurtosis cannot be significant if

the observed data are exactly normally distributed. Tabachnick and Fidell (2001) stated that a “variable with statistically significant skewness and kurtosis often does not deviate enough from normality to make a significant difference in the analysis”. Although this method is more applicable to small sample sizes, it was necessary to check the absolute values of the kurtosis index; values greater than 10.0 indicate a problem and values greater than 20.0 imply a serious problem (Kline, 2005). Therefore, it was

required to ensure that the absolute values of skewness and kurtosis were within the recommended levels (see Table 1), suggesting univariate normality. Adjustments such as data transformation were unnecessary as the variables did not deviate from the identified normality (Tabachnick & Fidell, 2001).

**Homogeneity Test of Variance**

To examine this assumption, this study applied Levene’s test for homogeneity of variances (Table 2)

Table 2

The comparison of mean among groups for all research variables in the pre-test

Variable	Mean Square	Degrees of Freedom	F Value	P Value
Phonic Fluency	2	267	1000	0.397
Reading Fluency	2	59.467	1.766	0.0213
Vocabulary Fluency	2	0.067	0.051	0.95
Reading Comprehension	2	7.8	7.321	0.008

As can be seen in Table 2, the comparison of the three groups indicates no significant differences among them in terms of reading fluency and reading comprehension in the pre-test, confirming that all three groups were homogeneous at baseline.

**Effect of Fluency Building technique in phonics on phonic fluency**

Testing was carried out once before the individual training started and once after completion of the individual training. The interval between the two tests was 52 weeks. As can be seen in Table 3, the results indicate that the mean of overall phonic fluency for groups 1, 2, and 3 was different after the intervention. To evaluate these changes, ANOVA was applied.

Table 3

Description of the Statistics of Phonic Fluency

Group	Pre-test		Post-test	
	Mean	Standard Deviation	Mean	Standard Deviation
Group 1	1.60	0.548	43.40	2.702
Group 2	1.20	0.447	28.40	4.824
Control Group	1.60	0.548	26.00	6.595

The ANOVA findings showed that the differences among the groups were statistically significant (F: 18.000, p < 0.000). Table 3 shows that the changes in the overall phonic fluency mean score among all groups

were significantly different between the pre-test and post-test. It can be seen that the participants in group 1 performed significantly better in the post-intervention test than those in group 2. There was a notable effect of parents’

participation in the home rate building training on the probes.

A paired-samples t-test was carried out on the probes to compare phonic skills before and after the Fluency Building intervention. There was a significant difference in the scores for (M=1.47, SD 0.516) and (M= 32.60, SD - 9.202),  $t(14) = -13.214, p = 0.000$ . This suggests that Fluency Building is effective in increasing fluency in phonic skills among slow-learning children.

**Effect of Fluency Building technique in phonics on reading fluency**

All participants in all three groups were tested on reading and saying words during the probes. Testing was carried out once before the individual training started and once after completion of the training. The interval between the two tests was 11 weeks.

A paired-samples t-test was carried out the probes to compare reading skills before and after the Fluency Building intervention. There was a significant difference in the scores for (M=13.27, SD 6.112) and (M=55.60, SD 15.099),  $t(14) = -11.213, p = 0.000$ . These results suggest that Fluency Building technique in reading is effective in increasing fluency in reading skills among slow-learning children.

Table 4  
Descriptive Statistics for Reading Fluency

Group	Pre-test		Post-test	
	Mean	Standard Deviation	Mean	Standard Deviation
Group 1	17.00	9.028	72.60	10.114
Group 2	12.60	4.159	53.60	4.980
Control Group	10.20	1.483	40.60	4.827

The ANOVA findings showed that the differences between the groups were statistically significant ( $F: 25.831, p < 0.000$ ). Table 4 shows that the changes in the overall reading fluency mean score among all groups were significantly different in the pre-test and post-test score. It can be seen that the participants in group 1 performed significantly better in the post-intervention test than those in group 2. There was a notable effect that students who gained fluency in phonic skills also performed better in reading fluency skills.

**Effect of Fluency Building technique in vocabulary on vocabulary fluency**

Testing was carried out once before the individual training started and once after completion of the training. The interval between the two tests was 8 weeks.

As can be seen in Table 5, the results indicate that the mean of overall reading fluency for groups 1, 2, and 3 was different after the intervention. To evaluate these changes, ANOVA was applied.



*Table 5*  
Descriptive Statistics for Vocabulary Fluency

Group	Pre-test		Post-test	
	Mean	Standard Deviation	Mean	Standard Deviation
Group 1	3.60	1.140	48.00	0.707
Group 2	3.60	1.140	4.20	1.095
Control Group	3.40	1.140	3.80	0.837

The ANOVA findings showed that the differences between the groups were statistically significant ( $F= 16.836, p < 0.000$ ). Table 5 shows that the changes in the overall vocabulary fluency mean score among all groups were significantly different in the pre-test and post-test score. It can be seen that the participants in group 1 performed significantly better in the post-intervention test than those in groups 2 and 3. There was a notable effect that students with better vocabulary knowledge also performed better in vocabulary fluency skills.

A paired-samples t-test was carried out the probes to compare vocabulary skills before and after the Fluency Building intervention. There was a significant difference in the scores for ( $M=3.53, SD 1.060$ ) and ( $M=18.67, SD$

$21.486$ ),  $t(14) = -2.734, p = 0.016$ . These results suggest that Fluency Building technique in vocabulary is effective in increasing fluency in reading skills among slow-learning children.

**Effect of Fluency Building in vocabulary on reading comprehension**

Testing was carried out once before the individual training in vocabulary fluency started and once after completion of the training. The interval between the two tests was nine weeks. Table 6, the results indicate that the mean of overall reading comprehension for groups 1, 2, and 3 was different after the intervention. To evaluate these changes, ANOVA was applied.

*Table 6*  
Descriptive Statistics for Reading Comprehension

Group	Pre-test		Post-test	
	Mean	Standard Deviation	Mean	Standard Deviation
Group 1	4.60	0.894	11.80	5.630
Group 2	2.80	1.483	3.40	1.342
Control Group	2.20	0.447	3.20	0.837

Table 6 shows that the changes in the overall reading comprehension mean score among all groups were significantly different in the pre-test and post-test score. It can be seen that the participants in group 1 performed significantly better in the post-intervention test than those in

groups 2 and 3. There was a notable effect that students with better vocabulary knowledge also performed better in reading comprehension skills.

*Table 7*  
Regression Analysis Summary for Vocabulary Fluency Predicting Reading Comprehension

Variable	B	SE B	$\beta$
Reading Fluency	0.268	0.60	0.78

**The effectiveness of reading fluency on reading comprehension**

The results (see Table 7) of the regression indicated that reading fluency explained 6.06% of the variance and was a significant predictor of reading comprehension:  $F(1,13) = 20.002$ ,  $p < 0.001$ . It was found that reading fluency significantly predicts reading comprehension skills. Reading fluency contributes significantly to reading comprehension ( $B = 0.268$ ,  $p < 0.01$ ), which means that reading

comprehension will increase by 0.268 when vocabulary fluency increases by 1.

**The effect of implementing Fluency Building techniques in phonics or vocabulary on reading comprehension**

A multiple regression analysis was carried out to test whether phonic fluency and vocabulary fluency significantly predicted the participant's reading comprehension skills, test result as in the Table 8.

Table 8

Regression Analysis Summary for Phonic Fluency and Vocabulary Fluency Predicting Reading Comprehension

Variable	B	SE B	$\beta$
Phonic Fluency	-2.33	0.193	-4.13
Vocabulary Fluency	.277	0.83	1.145

The results of the regression (table 8) indicated that the model explained 6.59% of the variance and was a significant predictor of reading comprehension:  $F(1,13) = 20.002$ ,  $p < 0.001$ . It was found that phonic fluency does not significantly predict reading comprehension skill ( $Beta = -0.413$ ,  $t(14) = -1.209$ ). However, vocabulary fluency does contribute significantly to reading comprehension skill ( $Beta = 1.145$ ,  $t(14) = 3.353$ ,  $p < 0.05$ ). The final predictive model was: Reading comprehension =  $8.564 + (-2.33 * \text{phonic fluency}) + (.277 * \text{vocabulary fluency})$ , which means that reading comprehension will increase by 0.268 when vocabulary fluency increases by 1.

significant difference in the scores for ( $M=55.80$ ,  $SD 14.925$ ) and ( $M=55.60$ ,  $SD 15.099$ ),  $t(14) = -0.716$ ,  $p = 0.000$ . These results suggest that reading fluency can be retained by slow-learning children.

**Discussion**

**The ability to retain reading fluency and reading comprehension skills after one**

This probe was carried out once after completion of the individual training in reading fluency and once when one month had passed since completion of the training.

The research findings are crucial in highlighting the effectiveness of Fluency Building techniques for vocabulary and phonics for slow-learning children. One key finding from the research was that Fluency Building techniques were responsible for the improvement in phonics fluency. The study's findings demonstrate that slow-learning students can master phonics. While previous research argues that slow-learning children struggle with mastering phonics, the study demonstrates that the problems in such research could be the instructional techniques applied rather than the cognitive limitation of the students. The findings of the study are in agreement with Jimenez, Mims, and Browder (2012), who identify Fluency Building techniques as effective for all children regardless of their cognitive limitations. The study has also illustrated that students that received extra practice with phonics skills

In order to assess retention of reading fluency, a paired-samples t-test was conducted one month after the Fluency Building intervention; during this month the students had not received any training at all. There was no statistically

were likely to experience key improvements in reading fluency. This study illustrates that automaticity is achieved with constant repetition. Taguchi, Gorsuch, Lems, and Rosszell (2016) indicate that repetition increases familiarity with the text as this leads to information density which increases reading fluency. The empirical findings of the research strongly support the role of training basic skills in making learning efficient and faster.

The findings illustrated that phonics fluency positively contributes to reading fluency. The research has demonstrated that the students who are readily able to identify letter sounds are ready to boost their reading level. Binder and Watkins (1990) support the assessment that the component skill needs to be mastered to lay the foundation for the complex skill to be mastered. In this case, sounding out words is a component skill, and improvement of reading fluency demands that the skill be mastered. Vocabulary fluency is another key skill that is improved by the implementation of Fluency Building techniques. Hence, students that are fluent in vocabulary are faster in retrieving the meaning of the word, and this can promote reading comprehension, as illustrated by the research. Yoder et al. (2013) illustrates that vocabulary deficiency is one key problem that affects the ability of slow-learning students to comprehend the reading materials. This research provides key support in the use of vocabulary fluency to improve reading comprehension among slow-learning children as this is a novel topic with little research.

The results of the study indicate that the Fluency Building technique will be a key approach to improving vocabulary fluency. The Fluency building intervention on vocabulary was responsible for creating word knowledge that reduced the obstacles facing slow-learning children in their effort to comprehend texts. While both phonics and vocabulary contribute to improving the reading fluency of slow-learning children, the research does point out that vocabulary fluency is a stronger predictor for reading

comprehension. This is because vocabulary fluency provides key support to phonics fluency, and this improves students' reading abilities.

Another key finding of the research is that the implementation of Fluency Building techniques leads to long-term retention. The research illustrated that slow-learning children were able to retain information even after 30 days without any training. Furthermore, the children exposed to the Fluency Building techniques responded faster to retention tests compared to those that had not received any Fluency Building techniques. Thus, Fluency Building techniques perform well over other traditional approaches in boosting reading fluency as well as comprehension.

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