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Article

Measuring the Effectiveness of the Brain-Based Learning Model on the Level of Reading Comprehension Based on Exposition Reading Structures in Junior High School

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Abstract

This study aimed to investigate the effectiveness of Brain-Based Learning Model on the level of reading comprehension based on Exposition reading structure in Indonesian Junior High Schools. This experimental study used a one-group pretest-postest design. The data were collected using measurement or test techniques. The data analysis technique used the normality test, homogeneity test, and t-test. Based on the result of the t-test calculation; the difference between the average score in the pretest and posttest, the Brain-Based Learning Model was found effective in the reading comprehension learning in the seventh-grade students of SMPN Unggulan Sindang Indramayu. The effectiveness of this model covered all kinds of Exposition Reading structures; List Structure, Topic Structure, Matrix, Hierarchy, Sequence of Events, and Tree Structure. In other words, Brain-Based Learning in Reading comprehension learning improved the students' ability to comprehend Exposition reading of the seventh-grade students SMPN Unggulan Sindang Indramayu.

Keywords

Brain-Based Learning Model, Reading Comprehension, Exposition Reading Structure

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Language ability has central importance globally and is connected with the learning ability of students. Similar with other nations, the language ability of Indonesian students has vital importance. However, number of issues have been found among the Indonesian students. Most importantly, among the Junior High School students, the learning ability is quite low due to various reasons. Based on the "Most Literate Nation in the World" study, conducted by Central Connecticut State University in March 2016, Indonesia was ranked 60th out of 61 countries regarding reading interest (Kompas.com, Monday, August 29, 2016). The results of the survey are not much different from the results of the 2006 census of the Central Statistics Agency (BPS), which showed 85.9% of Indonesians prefer watching television rather than listening to the radio (40.3%) and reading newspapers (23.5%). The survey results further confirm that reading has not become a habit or culture of the Indonesian nation. Indonesian people are more interested in watching or listening than reading.

The reading ability of Indonesian students internationally is still weak. The tests conducted by the Progress in International Reading Literacy Study (PIRLS) in 2011 to measure the results of reading literary texts and informational texts on all items could not be answered perfectly by 4th-grade elementary school students. Indonesian students were able to answer only 0.1% perfect level questions, 4% high-level questions, 28% medium level questions, and 66% weak level questions. This result means that Indonesian students at perfect, high, and medium levels are below the median percentage achieved by international students, while those at weak levels are above the median for international students (Suryaman, 2015). The survey results were reinforced by UNESCO statistical data published in 2012. The data states that the reading interest index in Indonesia has only reached 0.001. It means that for every 1,000 residents, only one person is interested in reading. This condition is, of course, very worrying. Even Taufik Ismail has compared the reading culture among students today. He mentioned that Germany's average high school graduate reads 32 books, in the Netherlands 30 books, Russia 12 books, Japan 15 books, Singapore 6 books, Malaysia 6 books, Brunei 7 books. At the same time, Indonesia has zero books (www.paud-dikmas.go.id).

According to the current study, Brain-Based Learning Model could be the possible way to promote reading comprehension based on the exposition reading structure in junior high school in Indonesia. Although, several studies have carried out on reading comprehension of Indonesian students (Al Afiyah, 2022); (Mariam et al., 2022); (Kohar; Nanda & Azmy, 2020), however, Brain-Based Learning Model is rarely examined with reading comprehension based on the exposition reading structure. More specifically, role of Brain-Based Learning Model on reading comprehension based on the exposition reading structure among the junior high school is not addressed to in any literary domain.

Therefore, from the aforementioned discussion, following research question was developed; What is the role of Brain-Based Learning Model on reading comprehension based on the exposition reading structure among the Indonesian junior high school students? This study aimed to determine the effectiveness of the Brain-Based Learning Model (Brain-Based Learning Model) on reading comprehension based on the exposition reading structure in junior high schools of Indonesia. The current study has major significance for the literature, both theoretically and practically. This study has major contribution to the literature as previous studies have not considered Indonesian junior high schools in relation to the Brain-Based Learning Model. The relationship between Brain-Based Learning Model and reading comprehension based on the exposition reading structure in junior high schools of Indonesia is not investigated by previous studies. This unique relationship has major importance practically. Because the practitioners as well as the management of junior high schools of Indonesia can promote students' performance by applying Brain-Based Learning Model.

Literature Review

Language skills are the focus of development in language learning. Language skills consist of listening, speaking, reading, and writing skills. The four language skills are interrelated with each other. The linkage of the four language skills can be seen in the grouping of aspects of language skills, which are grouped into aspects of receptive and productive language skills. Receptive language skills include listening and reading skills, while productive language skills include speaking and writing. This receptive language ability significantly assists students in understanding the material in other fields of study. Receptive language skills, especially reading skills, are essential for success in school (Baroody & Diamond, 2012) and success in modern society. This success

depends, among other things, on whether a person can understand reading that presents information about the development of science and technology, which is mostly presented in print and electronic media, such as magazines, newspapers, books, brochures, articles, and many others. Understanding various readings is inseparable from the ability to use specific strategies to retrieve important information in reading and discard unimportant details. These skills are rarely acquired through everyday experience but must be through a planned program such as in school.

In schools, from the elementary school level, students face many textbooks that present much information. These books usually contain long exposition readings and concepts that are quite difficult to understand. Reading these books in school aims to achieve one of the most important learning goals, namely learning. Thus, if students are expected to succeed in their learning tasks, students must be equipped with strategies to understand various readings.

The last three studies from PISA (2009, 2012, 2015) showed that the ability of Indonesian students aged 15 years—the Postage of 9 years of compulsory education—in three types of literacy, namely reading literacy, the ability to apply mathematics to practical life (mathematical literacy), as well as the ability to use science in daily life skills (scientific literacy), were at a lower level. In 2009, Indonesia was ranked 57th out of 65 countries surveyed with a reading ability score of 402 and an OECD average score of 493. In 2012 Indonesia was ranked 64th out of 65 countries surveyed with a reading ability score of 396 and an OECD average score of 496. In 2015 Indonesia was ranked 65th out of 70 countries surveyed with a reading ability score of 397 and an OECD average score of 493.

The results of these studies indicate that things must be improved in teaching reading, and the importance of effective reading. In learning, including learning to read, various components are involved. These components are human, material, facilities and equipment, and procedures. The human component includes students and teachers. Materials are various learning materials that can be used as learning resources, such as books and films. Facilities and equipment are various things that can support the learning process. Procedures are various activities carried out in the learning process, such as strategies and learning methods (FAUZI & RESPATI, 2021; Sari & Surip, 2020). Furthermore, a study carried out by Sole and Edmondson (2002), highlighted that reading comprehension is most important among the schools for learning.

The components above can cause the success or failure of learning. Thus, one alternative problem solving can be done is applying the Brain-Based Learning Model. Brain-Based Learning Model is a teaching model that considers the state of the brain working when retrieving, processing, and interpreting information that has been absorbed and how the brain works to retain messages or information obtained. In short, this Brain-Based Learning Model is a learning model that prioritizes brain development (Alshahrani, 2021; Rabbani et al.; Sumarno et al., 2021). The Brain-Based Learning Model involves accepting rules about how the brain processes and then organizes instructions by remembering these rules to produce significant learning (Ahmad & Nasution, 2021; Rueda, 2020). Furthermore, according to Duman (2010) Brain-Based Learning Model is a way of thinking about the learning process. It means a set of principles and basic knowledge and skills that can make better decisions about the learning process.

The goals of brain research studies include teaching individual differences, diversifying teaching strategies, and maximizing the brain's natural learning processes (Madrazo Jr & Motz, 2005; Mercer, 2013). Thus, without knowing the workings of the brain, it is impossible to understand the nature of learning. According to Tirozzi (2001), teaching must be the art of changing the brain. Meanwhile, (Kolb & Kolb, 2005)state that meaningful learning does not occur in one way but in a single circulation because the brain works in a single unit while learning. So, teaching should start with brain exploration. While challenges can encourage learning, threats can hinder it (Abubakari, 2021; Howieson, 2003; Joffroy & Cuttier, 2021).

According to (Bruer, 1997), "It is important to use the results of research on the brain in the world of education. Not only because education requires having a brain (how difficult it is to educate people who do not have brains or abnormal brains), but because education has a goal to maximize the use of the brain. Not only for the rational-cognitive aspect but also the emotional, physical, and spiritual aspects. The optimal brain is a brain that has all its potential well-optimized" (Jermsittiparsert, 2021; Memon et al., 2017). In line with this opinion, Mikulecky argues that the brain has only been discussed in the medical-neurology faculty so far.

The idea of uniting the right and left hemispheres of the brain in learning was also put forward by (Memon et al., 2017). The learning system that unites the left and right hemispheres of the brain is called the natural

learning system of the brain. He added, that the brain develops the five most important learning units, namely emotional, social, cognitive, physical, and reflective. The five systems relate to the basic psychological needs of the mind to be something (to be), to belong (to know), to do (to do), and to experiment and explore (Alfayad, 2021; Ateek, 2021; Memon et al., 2017).

The importance of combining the right brain and left brain in learning was also stated by Kalbfleisch and Gillmarten (2013). They argued that in this universal era, humans are flooded with information repeatedly, which must be processed and responded to in a relevant manner. Information received by the brain can be directed to the right or the left hemisphere of the brain. This information must be digested and responded to by both the right and left hemispheres of the brain. It is not a problem if humans can integrate the two abilities of the brain. So, humans must be forged through proper learning or training so that their brains become prime, dynamic, adaptive, and flexible.

Recently, many educational practices have brought up various research results on the brain into educational practice. They include Fischer (2009) with Mind Howard Gardner with Multiple Intelligences, Barbara Prashnig with The Power of Learning Styles, (Edelenbosch et al., 2015) Given with Brain-Based Teaching , and (Jensen, 2008) with Brain-Based Learning, Super Teacher & Super Teaching, and Learning-Based Brain, (Corda, 2012) with Effective Memory and Learning (Corda, 2012), and (Rose & Nicholl, 2002) with Accelerated Learning for the 21st Century. In addition, researchers who have conducted research related to the brain include (Bruer, 1999; Connell, 2002; Gilder, 1982; Grady & Luecke, 1978; Kitchens, 1991; Serdyukov, 2008). These studies suggest that teachers can involve processing the right brain and left brain.

Method

Research design

The research design used in this study depended on the availability of data, determination of the research sample, and the frequency of measurement. Having fulfilled all these conditions, this research was categorized as experimental research because the data to be collected was only available if an experimental treatment was carried out. Based on the determination of the research sample, this research was a quasi-experimental type. The quasi-experiment was chosen because the researcher could not form a new group (class). Researchers could only use existing groups (classes). Based on the measurement frequency, this study chose a research design whose measurements were carried out twice, namely before and after treatment. Based on that, the researchers chose a one-group pretest-posttest design (Garfield & Chance, 2000).

The design of this research was pioneered by Singh and Masuku (2014) an d can be shown as below:

O_1	X	O_2

Where:
O_1: The initial measurement (pre-test) of reading comprehension exposition before using the Brain-Based Learning Model.
X: Treatment of teaching reading comprehension exposition with Brain-Based Learning Model (Brain-Based Learning Model)
O_2: The Final measurement (post-test) of exposition reading comprehension after using the Brain-Based Learning Model.

Participants

This study involved the seventh-grade students of SMPN Unggulan Sindang Indramayu and the Indonesian language teacher who taught in the class. The number of class VII study groups at SMPN Sendang Indramayu in the 2020/2021 Academic Year was 8 study groups. From the 8 study groups, one study group was sampled. Determination of the selected study group was done through lottery. From the results of the draw, Class VII H was selected. The subjects in the study were all students in the selected class who did not have significant physical abnormalities and did not have eye abnormalities that could not be corrected.

Data Collection Tools

The data collection technique of this study suited a measurement or a test technique. The test technique was used to collect quantitative data. Quantitative data in this study was the data that comes from test results, both pre-test results and Post-test results.

Data Analysis

a. Data Normality Test

To test the normality of the data in this study, the Chi Quadrad (χ^2) data normality test technique was used with the following steps.

1) Specifies the number of classes interval.
2) Specifies the length of the class interval.
3) Arrange into a frequency distribution table (fo) and an auxiliary table to calculate the Chi-Square count.
4) Calculates fh (expected frequency).
5) Entering the fh values into the fh table column, simultaneously calculating the (fo - fh) and $\frac{(\text{fo} - \text{fh})^2}{\text{fh}}$ values. The value $\frac{(\text{fo} - \text{fh})^2}{\text{fh}}$ is the calculated Chi Khuadrad value (χ^2).
6) Comparing the price of Chi Khuadrad (χ^2) calculate with Chi Khuadrad (χ^2)

(Singh & Masuku, 2014)

b. Testing the homogeneity of data variance

1. For the pre-test and post-test data, the homogeneity was tested by t-test with the following formula.

$$t = \frac{S_1{}^2 - S_2{}^2}{2S_1S_2\sqrt{\frac{1-r_{12}{}^2}{db}}}$$

Note:

T = the value of t to be testedharga t yang akan diuji
S_1 = standard deviation of the pre-test
S_2 = standard deviation of the post-test
$S_1{}^2$ = Pre- test variation (varinasi tes awal)
$S_2{}^2$ = Post- test variation (varinasi tes akhir)
r = Correlation value between the pre-test and Post-test

The homogeneity was tested by F-test with the following formula for data originating from the Post-test.

$$F = \frac{S^2b}{S^2k}$$

note:

F = the variant value to be testedHarga varians yang akan diuji
S^2b = the bigger variance
S^2k = the smaller variance

(Singh & Masuku, 2014)

c. Hypothesis test

To test the hypothesis related to the effectiveness of the learning model, the t-test formula is used as follows.

$$t = \frac{\bar{Y}_1 - \bar{Y}_2}{\sqrt{Sy_1{}^2 + Sy_2{}^2 - 2r_{12}Sy_1Sy_2}}$$

Note:
T = the value of t (t_{count})
$\bar{Y}_1$ = the average score of the Pre-test
$\bar{Y}_2$ = the average score of the Post-test
S_1 = the standard deviation of the Pre-test
S_2 = the standard deviation of the Post-test
S_1^2 = Pre-test variance
S_2^2 = Post-test variance
r = the correlation value between Pre-test and Post-test
(Singh & Masuku, 2014)

Results

The results of data analysis consisted of normality test, homogeneity test, and hypothesis testing whci ar epresented in thissection.

Tabe 1 presents the Nomality tes tresults of the pretest and the posttest.

Table 1. *The Normality Test Result of Pre-Test and Post-Test*

Variable	χ^2_{count}	χ^2_{table}	Interpretation
Pre-test of Exposition reading comprehension	2.091	11.070	Normal
Post-test of Exposition reading comprehension	1.591	11.070	Normal
Pre-test of List Structured Exposition reading comprehension	8.136	11.070	Normal
Post-test of List Structured Exposition reading comprehension	6.455	11.070	Normal
Pre-test of Topic Network Structured Exposition reading comprehension	2.978	11.070	Normal
Post-test of Topic Network Structured Exposition reading comprehension	6.091	11.070	Normal
Pre-test of Matrix Structured Exposition reading comprehension	1.0091	11.070	Normal
Post-test of Matrix Structured Exposition reading comprehension	6.455	11.070	Normal
Pre-test of Hierarchy Structured Exposition reading comprehension	6.091	11.070	Normal
Post-test of Hierarchy Structured Exposition reading comprehension	5.955	11.070	Normal
Pre-test of Sequence of Events Exposition reading comprehension	6.091	11.070	Normal
Post-test of Sequence of Events Exposition reading comprehension	5.955	11.070	Normal
Pre-test of Tree-Structured Exposition reading comprehension	8.159	11.070	Normal
Post-test of Tree-Structured Exposition reading comprehension	6.432	11.070	Normal

Based on the Chi-Square normality data test technique, it was obtained that the data for each variable was in Normal interpretation because the t_{table} is greater than t_{count}.

Table 2 presents the Homogeneity test result of Pretest and Post-test

Table 2. *The Homogeneity test result of Pretest and Post-test*

Variable	t_{count}	t_{table}	Interpretation
Pre-test and Post-test of Exposition Reading Comprehension	84.649	2,042	Inhomogeneous
Pre-test and Post-test of List Structured Exposition Reading Comprehension	81.258	2,042	Inhomogeneous
Pre-test and Post-test of Topic Network Structured Exposition Reading Comprehension	69.006	2,041	Inhomogeneous
Pre-test and Post-test of Matrix Structured Exposition Reading Comprehension	72.879	2,042	Inhomogeneous
Pre-test and Post-test of Matrix Structured Exposition Reading Comprehension	26.901	2,042	Inhomogeneous
Pre-test and Post-test of Sequence of Events Structured Exposition Reading Comprehension	60.859	2,042	Inhomogeneous
Pre-test and Post-test of Tree-Structured Exposition Reading Comprehension	21.541	2,041	Inhomogeneous

Based on the F-Test homogeneity test, the data results of each variable was found inhomogeneous. It is because t_{count} was greater than t_{table}. Furthermore, the Brain-Based Learning Model is said to be effective in learning reading comprehension if there is a significant difference between the pretest and posttest average. To determine whether the difference between the two averages is significant, the data must be tested using the t-test technique or the difference between the two averages to be calculated. Based on the results of the t-test calculation, the difference between the average pretest and posttest for the Brain-Based Learning Model class can be seen in Table 3.

Table 3. *The Result of Significant different test of Pretest and Post-test*

Variable Pair	dk	t_{count}	t_{table}	Interpretation
Pre-test and Post-test of Exposition Reading Comprehension	31	5.926	1.699	Significant
Pre-test and Post-test of List Structured Exposition Reading Comprehension	31	3.192	1.699	Significant
Pre-test and Post-test of Topic Network Structured Exposition Reading Comprehension	31	3.07	1.699	Significant
Pre-test and Post-test of Matrix Structured Exposition Reading Comprehension	31	3.683	1.699	Significant
Pre-test and Post-test of Matrix Structured Exposition Reading Comprehension	31	4.835	1.699	Significant
Pre-test and Post-test of Sequence of Events Structured Exposition Reading Comprehension	31	3.981	1.699	Significant
Pre-test and Post-test of Tree-Structured Exposition Reading Comprehension	31	5.293	1.699	Significant

Table 3 reveals that there are significant differences between the mean of the Pretest and the average of the post-test in each pair of variables. So, the Brain-Based Learning Model is effective in learning reading comprehension. In other words, the Brain-Based Learning Model can improve students' ability to understand exposition readings.

Based on the scoring result, the data from the pre-test and post-test can be seen in Table 4 and Figure 1

Table 4. *The average score of Pretest and PostTest*

Ability	Average			
	Pre-test		Post-test	
	SCORE	%	SCORE	%
Comprehending Exposition Reading	75.4	41.9	15.3	84.9
Comprehending List Structured Exposition Reading	14.6	48.6	26.9	89.8
Comprehending Topic Network Structured Exposition Reading	15	50.1	26.3	87.5
Comprehending Matrix Structured Exposition Reading	13	44	26.9	89.6
Comprehending Hierarchy Structured Exposition Reading	9.69	32.3	24.6	81.9
Comprehending Sequence of Events Structured Exposition Reading	13.56	45.21	24.9	83.1
Comprehending Tree-Structured Exposition Reading	9.22	30.73	23.28	77.6

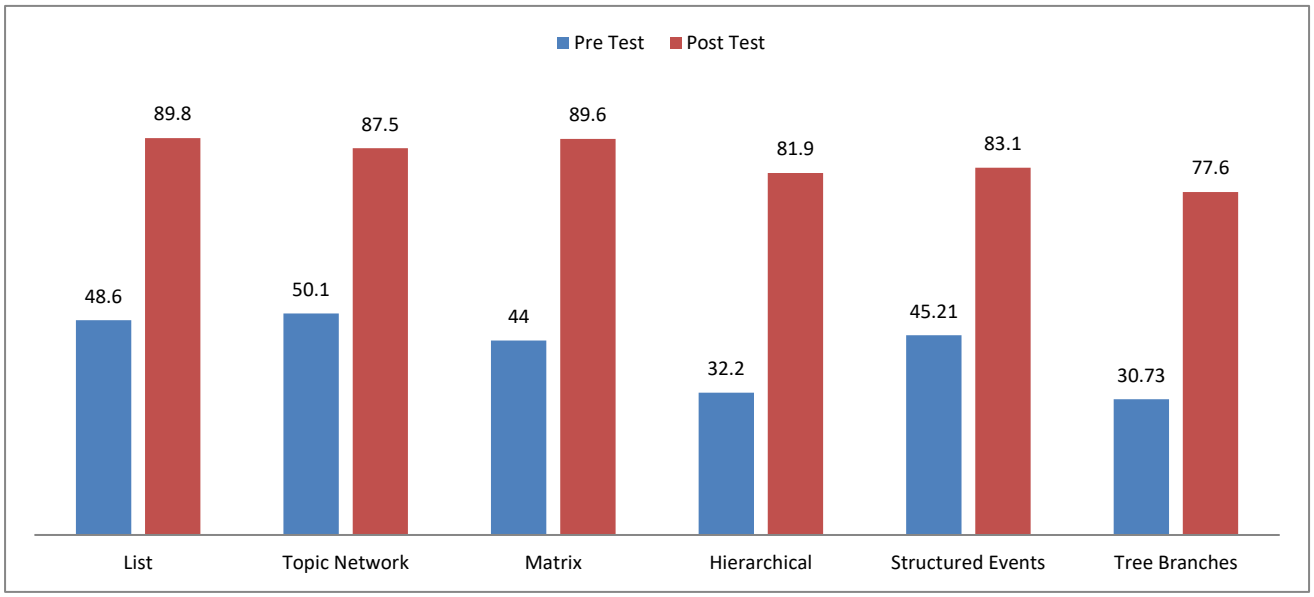

Figure 1. *The Average Score of Pretest and Post-test*

Based on table 4, it can be seen that the average score of posttest was higher than the average score of pretest in each category of ability for comprehending Exposition reading.

The students' ability to comprehend Exposition reading before and after learning can be seen in Table 5.

Table 5. *The Students' Ability in Comprehending Exposition Reading in Brain-Based Learning Model Class*

ABILITY	ABILITY CLASSIFICATION	
	BEFORE	AFTER
Comprehending Exposition Reading	Low	High
Comprehending List Structured Exposition Reading	Low	High
Comprehending Topic Network Structured Exposition Reading	Low	High
Comprehending Matrix Structured Exposition Reading	Low	High
Comprehending Hierarchy Structured Exposition Reading	Low	Enough
Comprehending Sequence of Events Structured Exposition Reading	Low	Enough
Comprehending Tree-Structured Exposition Reading	Low	Enough

The data in table 5 shows an increase in the ability to understand exposition reading in students who take reading comprehension lessons with the Brain-Based Learning Model. This increase in ability occurs in all readings; they are structured in lists, topic networks, matrices, hierarchies, sequences of events, and tree branches. The improvement of students' reading comprehension ability after learning is evidence that this learning model can improve students' reading comprehension ability.

Discussion

The findings of this study reveal that the Brain-Based Learning Model was effective in learning reading comprehension in the seventh-grade students of SMPN Unggulan Indramayu. The effectiveness of this model includes all kinds of Exposition reading structures, namely list structures, topic networks, matrices, hierarchies, sequences of events, and tree structures. In other words, the Brain-Based Learning Model in learning reading comprehension can improve the ability to comprehend the exposition reading of class VII students of SMPN Unggulan Sindang Indramayu.

The learning of reading comprehension using the Brain-Based Learning Model is carried out using introducing reading structures. Students are explained various types of Exposition reading structures, namely list structures, topic networks, matrices, hierarchies, sequences of events, and tree branches. Students practice identifying the structure of the reading text they read. Students' knowledge of reading structure is used to understand exposition reading. Students' knowledge of reading structure is not used as question material for both the initial and final tests. In the initial and final tests, what was observed (measured) was the ability to understand the exposition reading.

Statistical calculations show that t_{count} is greater than t_{table} both for overall comprehension and comprehension for each type of exposition reading structure. This result proves that students have been able to use the knowledge about the structure of the Exposition reading that they have acquired in learning so their ability to comprehend the exposition reading increases. In other words, through this learning, students' knowledge increases, and they use that knowledge (cognitive skills) to comprehend the exposition reading.

The brain-Based Learning Model is a learning model based on cognitive psychology. According to cognitive psychology in student learning, students form cognitive structures in memory that maintain and organize information about various events in learning situations (Atkinson & dkk, 1983). Another term synonymous with cognitive structure is a cognitive map or schema. The term cognitive map or schema refers to cognitive structures stored in memory that are abstract representations of real-world events, objects, and relationships (Atkinson & dkk, 1983).

Collins and Stevens (1981) divides cognitive theory in learning into four kinds. One of them is the cognitive information processing approach. The information processing approach focuses on how children process information through attention, memory, thinking, and other cognitive processes. Information processing theorists argue that people select and pay attention to aspects of the environment, transform and reproduce information, relate new information to previously acquired knowledge, and organize knowledge to make it meaningful or understandable (Fischer, 2009; Kohar).

The information processing approach states that students process information, monitor it, and develop strategies regarding the information. The core of this approach is the memory process and the thinking process (Eveland Jr & Dunwoody, 2000). There is a very close relationship between memory and learning. Memory is the retention of learning and experience. In addition, the information processing approach includes three areas of cognitive study, namely the study of (1) the phases or steps in a series of information processing, (2) the mental processes or operations involved in each phase, and (3) the control and monitoring of these processes.

The study of the phases in the information processing series helps explain the stages in learning, namely the acquisition, processing, storage, retrieval of information, and actions taken, such as answering questions. A study of the processes involved in processing information helps explain the depth level of the process required to understand the exposition readings encountered. While the study of the control and monitoring of mental processes helps explain what control and monitoring needs can be done so that important information in exposition readings can be stored in memory and learning objectives can be achieved.

Suppose the above theories are related to the learning stages in the Brain-Based Learning Model. In that case, it can be concluded that there is a match between the theory of the information processing approach and the learning stages in the Brain-Based Learning Model. Therefore, it can be understood that the Brain-Based Learning Model in learning to read reading comprehension can improve students' reading comprehension skills.

The description above talks about the effectiveness of the Brain-Based Learning Model in learning reading comprehension. The description above does not explain the ability to understand students' exposition readings both as a whole and for each type of reading structure. The description above describes the ability to understand students' exposition readings both as a whole and for each type of reading structure.

Conclusion

The low reading ability of Indonesian students was one of the motivational factors of this study because low reading ability has major consequences on the performance of students. Literature also highlighted the low reading ability of Indonesian students. The results of research on Indonesian people's reading ability show that the Indonesian people's reading ability was still low, which was directly proportional to the low cognitive abilities. Hence, a need was felt to conduct a study on Brain-Based Learning Model to promote reading comprehension based on the exposition reading structure in junior high school in Indonesia.

The brain has never been studied in education context. Educators rarely even get the latest information on various studies on the brain. Whereas in teaching and learning activities, brain is always involved. Therefore, for an effective learning process to occur, the learning process must take place in a pleasant atmosphere and through various activities that activate all bits of intelligence. Learning activities that activate all bits of intelligence can occur if the teacher involves both the right and left brain parts in learning. Thus, Brain-Based Learning Model must be studied among the schools (Korthagen, 2010; Samuels, 2009).

Based on the findings and discussion in the current study, it can be concluded that the Brain-Based Learning Model is effective in learning reading comprehension at Junior High School Unggulan Sindang Indramayu. It can be seen from the t-test of the difference between the two averages between the Pre-test and the post-test. Based on the calculation of the t_{test}, the data obtained for t_{count} was 5.926 and t_{table} was 1.699. The data showed that t_{count} (5.926) was greater than t_{table} (1.699). This result means that the difference in the Pre-test average and the average of the Post-test in the Brain-Based Learning Model class was significant. The significance of the difference between the two means was the evidence of the treatment given. The treatment given was in the form of using a Brain-Based Learning Model. The effectiveness of this model included all kinds of Exposition reading structures, namely list structures, topic networks, matrices, hierarchies, sequences of events, and tree branches.

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