



FEMALE AND MALES' BRAIN TENDENCIES IN LEARNING ENGLISH AS A SECOND LANGUAGE



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ABSTRACT

This research is about the female and males' brain tendencies in learning English as a second language, and it was done at Universitas Kristen Indonesia. The purposes of conducting this research is to find out female and males' brain tendencies in learning English as a second language. This research was a library research, where researchers as "key instruments" of the research that find any information deals with the topic discussed from books, journals and proceedings sourced from "Pubmed, Google Scholar, Research Gate and other online sources" in order to answer the question. The result is that learning English as a second language achievement of students is not influenced by the competence of the right brain or left brain of students, but the left and right brain provides an understanding of the structure and function of the brain. The division of brain function based on the brain hemisphere allows students to gain a deeper understanding of how the brain works to help them improve students' mastery of subjects.

1. INTRODUCTION

The education model that suits the needs of the 21st century can only be realized if there is a shift in mindset and action patterns in various contexts of the implementation of the education and teaching process. Following are a number of paradigm shifts that are believed to be carried out by all stakeholders in order to improve the quality and relevance of education entering the modern world, which can only occur if information and communication technology is used optimally. The Changes in the paradigm of teaching and learning include a paradigm shift in organizing educational and learning activities in the classroom or environment around educational institutions where students learn from: a) teacher centered shifts towards student centered learning; b) from one way shift to interactive teaching; c) from isolated shifts to a networked environment; d) from passive to active inquiry based learning; e) from artificial shifts to real world context; f) from personal to shift to team based learning; g) from broad to shift to selected provisions for optimizing relevance; h) from single sense stimulation to shift to multisensory stimulation; i) shifting from single to multimedia tools; k) from adversarial to shift to cooperative relationships; l) from mass to shift to customized content production; m) from conformity / compliance shifted to diversity initiative; n) shifting from single knowledge to multi-disciplinary knowledge; o) moving from centralized towards autonomy

and accountability control; p) from factual shifts to critical thinking; and q) shifting from knowledge delivery to knowledge exchange.

The changes that are taking place require teachers to make various innovations in teaching so that learning in the classroom is not centered on teachers alone [1], [2]. The diversity that exists in each student needs to be understood by the teacher so that the appropriate teaching techniques can be planned and applied to enable the teaching objectives to be fully achieved. To understand the diversity of each student as they learn, various neuroscience studies have been conducted to provide new insights into how the brain thinks and learns [3]. Teachers who understand the level of brain development well can ensure the success of a teaching and learning process.

The human brain is a complex organ made up of 100 billion neuronal cells and each can build 10,000 connections or interconnects with other neurons. The human brain is divided into two hemispheres, namely the left hemisphere and the right hemisphere [4], [5], [6]. These two brain pairs are different from each other in terms of size, shape and function. Although there are two parts of the hemisphere of the brain, this does not mean that humans have two brains or only part of the brain functions. The two parts of the brain will interact with each other to maximize brain function. Studies in neuroscience have shown that the use of both hemispheres of the brain during learning improves students' conceptions and motivations and improves student achievement [7], [8], [9]. Therefore, in order to increase student's mastery of knowledge and skills in language learning, the use of brain functions should be maximized by applying teaching methods that stimulate each function of the brain [10], [11], [12]. Therefore, to help teachers effectively plan and deliver teaching to students, it is essential that a brain-based study be conducted to provide a clear understanding of brain mechanisms for maximizing brain function utilization [13], [14].

Left and right brain theory was popularized by Roger Sperry of the California Institute of Technology in 1965. The left and right brain theory is also known as The Split Brain Theory. The human brain in the cerebrum is divided into two hemispheres, the left hemisphere and the right hemisphere. These two hemispheres are connected by 200 to 300 million axon nerves called the corpus callosum. These two hemispheres, although similar, are different in physiology and function [15], [16]. The human brain is asymmetry. The left brain controls 50 percent of body function, while the right brain controls 50% of the rest. The right hemisphere controls creative activities, rhythm, rhyme, music, visuals, pictures as well as metaphorical thinking that can illustrate analogies and metaphors, patterns and patterns. In short, the right hemisphere is for holistic, subjective, aesthetic, creative and instinctive learning [17]. If you are a person who focuses more on the whole picture than on his personality, the existence of differences in brain inclination between male and female students. Female students are more inclined to use the left brain and have more critical thinking than male students. Male students are more likely to use the right brain and have a higher level of creativity compared to female students [18], [19]. However, students shows different findings [20], [21]. Male and female students found no difference between left and right brain tendencies.

The tendency of male students in learning English as a second language is also influenced by the nature of the subject which is said to be more masculine [22]. Characteristic of male students who are more abstract, more intuitive, more inclined to master the class and the attention of Learning English as a second language teachers [23]. The feature in these male students is similar to the nature of Learning English as a second language subjects which is more emphasis on the function of the right hemisphere. This affects the learning of female students who are more analytical, more systematic and more anxious to succeed in Learning English as a second language [24]. The teaching of Learning English as a second language in the form of abstract gives an advantage to male students because this method is appropriate to the way they understand the concept of Learning English as a second language, creative, emotional, if you learn better by acting than by listening, you are more likely to be in the right brain [25]. Based on the function of the right hemisphere which works non-verbally, the right hemisphere is very good for mastering holistic thinking such as seeing the forest not only trees and intuitive.

Student achievement in lessons is also contributed by brain domination factors. Although students use the whole brain during mathematics learning but there is still a tendency to the left hemisphere compared to the right hemisphere is found in the student. This study also proved that students with left brain tendencies were found to have higher mathematical achievement than students with tendencies in the right hemisphere or the whole brain with a mean score of 1.43.

The higher the student achievement in mathematics, the less likely they are to function in the left hemisphere than in the right hemisphere. In the Malaysian context, brain-based learning also has an impact on students' academic achievement. According to a study conducted by, brain-based teaching has provided students with a clearer understanding of Newton are learning English as a second language concept. Students' exposure to brain-based teaching strategies has helped students to be more focused during the learning process and able to achieve

the highest level of learning [26], [27]. Teaching strategies involving auditory, visual and kinesthetic provide space for students to maximize all their learning abilities to improve learning outcomes. Intrinsic and extrinsic motivation for individuals also affects learning [28]. Motivation is closely related to emotions that help us focus on reason and logic, calculation and feeling. Emotions are controlled by amygdala found in the limbic system. Highly motivated students will find it easier to study in a calm state so that synapses are easily formed [29]. Highly motivated individuals can also synchronize left and right brain activity so that all types of intelligence can be utilized using the entire brain function. The opposite is true when students have low self-motivation. Students showed that students with low self-esteem are more inclined to the right hemisphere. Dominant adults in the right hemisphere have lower self-esteem. The negative effects on these students affected their achievement in learning [30], [31], [32].

This study was conducted to examine the relationship between left or right brain tendency with student achievement and motivation in learning a language as a foreign language. The objectives of this study is to find out female and males' brain tendencies in learning English as a second language.

2. METHOD

This study is in the form of library research, where researchers as "key instruments" of the research. In order to find out the answers to the problem of the study, some theories that are directly related to the topic of "female and males' brain tendencies in learning English as a second language" were read and reviewed. The theories sourced from books, journals and proceedings (Pubmed, Google Scholar, Google with keywords brain tendencies in learning English, second language learning, and difference between male and female brain tendencies in learning) as well as other documents and turn them into research data which were analyzed descriptively.

3. RESULT AND DISCUSSION

After reading the theories and the previous related studies which had been done by the previous researcher, it is found that: a) There is no significant difference in terms of right brain tendency of male students and right brain tendency of female students in the context of this study; b) There was no significant difference in terms of male students 'left brain tendencies and female students' left brain tendencies in the context of this study; c) Learning English as a second language achievement of students can be said not to be influenced by the competence of the right brain or left brain of students in this study; and d) The motivation for learning English as a second language was not influenced by the efficiency of the right or left brain students in this study [32].

Male and female students have the same right and left brain tendencies. Studies of neuroscience have shown that male students show more dominant traits in the right hemisphere, while the traits present in female students show that they dominate function in the left hemisphere [33]. However, the findings of this study do not prove that each individual dominates only part of the brain function. Differences in personality and personality between male and female students also do not indicate that each of them tends to brain function in a particular hemisphere. This result may be due to the fact that students who choose to take this Learning English as a second language subject are among those selected who are largely intelligent students and have a tendency towards both right and left hemisphere brain hemispheres [34]. Learning English as a second language subject learning that emphasizes on creative and creative learning skills using the entire function of the left brain and right brain during learning further helps students to master both the right hemisphere and the left brain actually [35], [36]. Estimating students' abilities, personalities and limiting their abilities in planning teaching and learning in schools cannot help develop a student's potential.

Learning in the brain is a complex task. It does not involve any part of the brain. For example, although previous studies have shown that students with proficiency in language skills dominate the left hemisphere, when recent research on brain function is scanned using a functional magnetic resonance imaging scanner some simple words like dog, still involve the whole function of the brain. Therefore, in order for maximum learning to occur, teachers need to avoid their initial assumptions regarding student ability based on gender.

Left brain or right brain is not determined to achievement and learning motivation in learning English as a second language - This study has shown that student achievement and student motivation in Learning English as a second language cannot be determined by the tendency of the brain hemisphere. Although students taking Learning English as a second language subjects in the affected areas have brain tendencies in the right hemisphere similar to

the nature of Learning English as a second language subjects that tend to function brain function in the right hemisphere, their achievement in these subjects is still at a low level [37]. This proves that other factors such as teacher teaching techniques and environmental factors are also determinants of students' excellent achievement in Learning English as a second language and it does not depend solely on internal factors namely brain inclination and motivation. To overcome this problem, improvement measures in the teaching and learning process need to be taken by teachers to improve student excellence [38], [39]. Teachers' teaching techniques chosen by teachers should emphasize the ability of students to think and give space to the whole brain to function to maximize learning outcomes. Based on the results of this study, it can be said that brain-based learning that focuses on the overall function of the brain can have positive effects on student achievement. An individual's self-esteem can be enhanced when his or her brain function is maximized. Brain tendencies in the left hemisphere and the right hemisphere do not show any effect on student achievement and motivation to learn.

4. CONCLUSION

The theory of left and right provides an understanding of the structure and function of the brain. The division of brain function based on the brain hemisphere allows students to gain a deeper understanding of how the brain works to help them improve students' mastery of subjects. However, to improve student achievement and motivation, the emphasis that teachers need to give is not limited to the use of functions in certain parts of the brain hemisphere. The maximum use of the whole brain function during the teaching and learning process should be emphasized by the teacher so that learning always happens at all times.

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CONFLICT OF INTEREST

The author have declared that no competing interests exist.

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