

THE ROLE OF NEURO LINGUISTICS IN CREATIVE WRITING SHORT STORIES THROUGH AN INTERDISCIPLINARY APPROACH

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ABSTRACT

This study aims to explore the role of neurolinguistics in writing creative short stories for students through an interdisciplinary approach. neurolinguistics is a field of study consisting of linguistics and medicine which studies the relationship between language and the human brain which is linked to cognitive neuroscience and sensory and cellular movement. The method used in this research is literature review or literature review. There are four stages or four phases in conducting this research (1) designing a review, (2) conducting a review, (3) analyzing and (4) writing a review. In neurolinguistics, the parts of the human brain are also studied. The brain has 3 main parts, namely the cerebrum (cerebrum), cerebellum (cerebellum), and brainstem (brainstem). There are six factors that must be considered in creative writing, namely general knowledge and cognition, creative cognition, process, motivation and conative, linguistics and literacy, and psychomotor. There are also four-pillar factors of neurolinguistics, namely outcome, rapport, sensory acuity, and flexibility. Neurolinguistics also studies the structure and parts of the human brain, including the cerebrum (large brain), cerebellum (cerebellum), brainstem (brain stem) and limbic system (limbic system). The part that is closely related to writing is the cerebellum (cerebellum).

Keywords: *Neurolinguistics, Creative Writing, Interdisciplinary Approaches*

1. INTRODUCTION

There are still many people and do not understand the broad function of neurolinguistics. Actually, if we know well and correctly what role in language teaching will be a little easier in the way of teaching it to make students understand better in learning the language being learned.

When viewed from the meaning of a Neuro-Linguistics, it can be said to be an interdisciplinary study or a mixture of interdisciplinary, but there is no fusion of knowledge, if it is studied more deeply, neurolinguistics is a study of linguistics and medical science to explain the working relationship of the human brain in producing language.

According to (Rohaidah Kamaruddin et al., 2018)

neurolinguistics is a field of study that comprises the linguistics and medical science that study about the relationship between language and human brain. Meanwhile, according to (Ahlsén, 2006) Neurolinguistics is a branch of Cognitive Neuroscience, that, on its turn, together with Systemic, Movement, Sensory and Cellular, is a branch of a larger domain named the Neurosciences. And according to (Kemmerer, 2014) the goal of neurolinguistics is to understand how the cognitive capacity for language is subserved by the biological tissue of the brain.

So, we can conclude that neurolinguistics is a field of study consisting of linguistics and medicine which studies the relationship between language and the human brain which is

linked to cognitive neuroscience and sensory and cellular movement. Creative writing or creative writing is a process or stage in expressing ideas or ideas in writing so as to produce interesting writings that have a moral message.

According (Barbot et al., 2012) Creative writing is an open-ended design process that builds on creativity and is relevant to children's thinking skill development. It can be said that creative writing is something that is related to an open design process that is built on creativity and is relevant to the development of children's thinking skills. According (Kırkgöz, 2014) The inclusion of creative writing in the language teaching practices is justified due to several reasons: First, creative writing aids language development at the level of grammar, vocabulary, and discourse. Second, creative writing fosters 'playfulness', which encourages learners to play creatively with the language, to explore the language and discover things not only about the language but about themselves. In conclusion, there are two reasons for the inclusion of creative writing in language teaching practice for several reasons: First, creative writing assists language development at the level of grammar, vocabulary, and discourse. Second, creative writing fosters 'fun', which encourages students to play creatively with language.

In a dynamic change that occurs in society, there will be a new problem or friction. With the occurrence of a new problem or friction in this society, change or innovation is demanded in the community environment. In science, many new materials and methods are required for the advancement of science. In the science of the approach model, it is known that there are several approaches to science, namely monodisciplinary,

multidisciplinary, interdisciplinary and transdisciplinary. According to (Agus Zaenul Fikri, Luluk Indarti, 2020) Interdisciplinarity is a perspective that involves the transfer of another academic discipline to solve certain problems through education, research and community service.

Meanwhile, according to (Nasution, 2017) In principle, interdisciplinarity is also a science, a new science as a result of development. And according to (Nimawati et al., 2020) explained that interdisciplinary is an intensive interaction between one or more disciplines, whether directly related or not, through research programs, with the aim of integrating concepts, methods, and analysis. It can be concluded that an interdisciplinary approach is an approach that puts forward a perspective in the transfer of a general discipline that is related or not related to teaching, research, and community service by having a specific goal by using a concept or analysis.

A short story or short story is a fictional story, has a short plot, and only has a few characters. According to (Setiarini, 2015) explained that a short story is a story written with a more dense description of events, while the background and flashbacks of events are alluded to casually.

And according to (Lauma, 2017) Short stories are a form of fiction that is structured as an event to be told without having to be described according to real experience. From some of the explanations above, the writer focuses on the role of neurolinguistics in a creative short story writing strategy in an interdisciplinary approach. The main reason is how a neurolinguistics plays an important role in creative writing skills.

2. METHODOLOGY

The research method in this study the author uses the literature review method. According to (Snyder, 2019) A literature review can be broadly described as a more or less systematic way of collecting and synthesizing previous research. He continued, there are several processes of conducting research using literature reviews. In the following, the basics steps and important choices involved in conducting a literature review will be suggested and discussed using four phases; (1) designing the review, (2) conducting the review, (3) analysis and (4) writing up the review. This process was developed from practical experience and is a synthesis of and influenced by various standards and guidelines suggested for literature reviews. In essence, the literature review can be concluded that a research method is used to collect and synthesize previous research. The method of research carried out by researchers is by collecting a number of articles in journals, books, and articles on online news related to the problems and research objectives to be achieved.

There are four stages or four phases in conducting this research (1) designing a review, (2) conducting a review, (3) analyzing and (4) writing a review. There is an explanation in the literature review why it is important. (Danson, 1993) Literature reviews are important for numerous reasons. First, by undertaking a literature review, the information gathered from credible articles or studies that are of relevance, important and valid can be summarized into a document. Second, it provides a starting point for researchers where they are required to identify and understand what has been written about a particular area. Third, by carrying out a literature review, it not only highlights the gaps in knowledge but it means that students, researchers and

managers. Lastly, it can support "clarity in thinking about concepts and possible theory development"

3. FINDINGS AND DISCUSSION FINDINGS

Neurolinguistics

According to (Bambini, 2012) Neurolinguistics is by its nature an interdisciplinary enterprise, and straddles the borders between linguistics and other disciplines that are connected to the study of the mind / brain (mainly cognitive psychology, neuropsychology and cognitive neuroscience). In contrast to the opinion (Sastra et al., 2019) stated that Neurolinguistics also defines as language neurology, meaning, an interdisciplinary linguistics studying human brain functions on language comprehension and processing. From the two statements above, it can be concluded that neuro linguistics is an interdisciplinary study that examines linguistics and other disciplines and neurolinguistics is a study that examines the function of the human brain in language understanding and processing.

Structure and Organization of the Human Brain

According to (Budianingsih, 2017) the brain is divided into four parts, namely:

- a. Cerebrum (Big Brain)

The cerebrum is the largest part of the human brain which is also called the Cerebral Cortex, Forebrain or the Forebrain. The cerebrum is the part of the brain that distinguishes humans from animals. Cerebrum makes humans have the ability to think, analyze, logic, language, awareness, planning, memory and visual abilities.

- b. Cerebellum (Small Brain)

The Cerebellum or Cerebellum is located at the back of the head, near the end of the upper neck. The cerebellum controls many of the brain's automatic

functions, including: regulating posture or body position, controlling balance, muscle coordination and body movements. The Little Brain also stores and carries out a series of automatic movements that are learned such as driving a car, hand movements when writing, locking doors and so on.

c. Brainstem (Brainstem)

The brainstem is located in the skull or base of the head cavity and extends to the spine or spinal cord. This part of the brain regulates basic human functions including breathing, heart rate, regulating body temperature, regulating the digestive process, and is the source of the basic human instinct, namely fight or flight when danger comes.

The brain stem consists of three parts, namely: Mesencephalon or Middle Brain functions in terms of controlling the response of vision, eye movements, enlargement of the pupils, regulating body movements, and hearing. The medulla oblongata controls the brain's automatic functions, such as heart rate, blood circulation, respiration, and digestion. The pons determines whether we are awake or asleep.

d. Limbic System (Limbic System)

Limbic System (Limbic System)
The limbic system is located in the middle of the brain, wrapping around the brain stem like a shirt collar. Limbic comes from the Latin meaning collar. This part of the brain is also shared by mammals, so it is often called the mammalian brain. Limbic components include the hypothalamus, thalamus, amygdala, hippocampus and limbic cortex. The limbic system functions to produce feelings, regulate hormone production, maintain homeostasis, thirst, hunger, sex drive, pleasure centers, metabolism and long-term memory.

Neurolinguistics Pillars

According to (Hasbi, 2014) there are four pillars of neurolinguistics

a. Outcome

It can be said that this outcome is the ultimate goal of an endeavor and is based on the belief that knowing precisely what is desired helps a person in an effort to achieve it.

b. Rapport

Building good relationships, we can also take advantage of this tremendous, of course. There are many NLP techniques available that can be used to facilitate them.

c. Sensory Acuity

High sensitivity when seeing, hearing, and feeling (calibration) what is conveyed by the interlocutor through non-verbal communication such as facial expressions, tone of voice, eye contact, and body language

d. Flexibility (Flexible / not rigid)

The ability to adapt to different situations.

The Relationship Between the Brain and Language

According to Whitaker, in (Harianja, 2008) the determination of certain areas in the brain in relation to language is based on three main evidences. The first evidence is that the elements of language skills do not occupy the same part of the brain. Language skills (speaking, listening, reading, and writing) and linguistic structures (syntactic and semantic features, lexical and grammatical forms) have distinctive regions in the brain. Second evidence is that everyone's language occupies the same area in the brain. The third evidence is that there is a relationship between language skills and the hemispheres of the brain.

Meanwhile, according to (Budianingsih, 2017) Language is a verbal tool used to communicate. Language is an arbitrary system of

spoken symbols used by members of a language community to communicate and interact with each other, based on the culture they share. According to Brown's opinion, language is a set of symbols (vocals and visuals) that are systematic, humanized, conventionalize the meaning of the word referred to, and used to communicate by humans, in a speech community or culture, and are controlled by everyone in the same way.

From some of the opinions above, the authors conclude that language is a system of systematic symbols or symbols used by a language community in one community and controlled by all people in the same way to communicate with others.

Creative Writing

Basically, creative writing is actually a process of pouring out ideas or ideas that are useful for mind control and creative ideas so that they can become good and interesting writing for a reader. According to Wardhana and Ardianto in (Linda, 2017) Creative writing usually arises from within people who have the ability to think creatively, so that the ability to write creatively and think creatively is very strong. In assessing creativity in writing, there are several things that must be considered according to (Kirkgöz, 2014) The rubric for creativity designed for the study is adapted from Brookhart (2013).

It comprises a set of criteria that describes levels of performance quality in four levels of creativity ranging from very creative, creative, ordinary / routine to imitative. The rubric assesses creativity in five areas; a variety of ideas, a variety of sources, the novelty of idea combinations, the novelty of communication, and overall. From the above opinion, there are four levels of creativity, ranging from very creative,

creative, ordinary / routine to imitating.

Described by (Barbot et al., 2012) Yet, the “ingredients” of creative writing that are differentially underlined in each of the domains cited above belong thematically and conceptually to six broad categories of factors:

(a) general knowledge and cognition,

General knowledge and cognition factors are central to the development of writing skills. They include intelligence, particularly verbal intelligence and working memory.

(b) creative cognition,

Creative writing requires originality, or the ability to generate unique ideas and selective combinations of the recombination of the elements of a problem to change its representation to creatively solve problems related to the writing process or to produce original story elements.

(c) executive functioning,

Executive functions, such as planning and organizing ideas, are central to the writing process

(d) motivation and other conative characteristics.

There are two types of motivation, intrinsic motivation appears to be one of the major conative dimensions and extrinsic motivation is also useful in the writing process, to help students get through difficult writing assignments.

(e) linguistic and literary

Linguistic factors refer to the basic language skills that are involved in assembling words into meaningful sequences.

(f) psychomotor.

In addition to linguistic and literary skills, penmanship or handwriting is a lower-level skill that may affect one's ability to write.

Added by (Tok & Kandemir, 2015) Creative writing aids language development at all levels: grammar, vocabulary, phonology, and discourse.

Meanwhile, there are three different innovative writing procedures or strategies to overcome unknown character barriers and convey meaning according to (Chen & Zhou, 2010) Using pictures to represent meanings, using pictures to represent characters' pronunciations, and Using alternative characters to represent meanings.

Discussion

The Role of Neuro Linguistics in Creative Writing Short Stories

From some of the explanations above, the authors conclude that there are several roles of neurolinguistics in writing creative short stories. This can be found by the authors in neurolinguistics, which is a science that is related to interdisciplinary studies and a study that examines the function of the human brain in language understanding and processing and about cognitive neuroscience and sensory and cellular movement. There are also four main pillars of neurolinguistics, namely Outcome, Rapport, Sensory Acuity and Flexibility

In neurolinguistics, the parts of the human brain are also studied. The brain has 3 main parts, namely the cerebrum (cerebrum), cerebellum (cerebellum), and brainstem (brainstem). The three parts of the brain have their respective functions and roles. The part that is closely related to writing is the cerebellum (cerebellum).

The cerebellum is responsible for controlling movement, maintaining balance, and regulating the position and coordination of body movements. This part of the brain also plays a role in controlling fine movements, such as writing and painting. Several other functions of the cerebellum are playing an important function in the learning process of a person's motor movements. This part of the brain also

records the repetitive movements and makes them perfect for each experiment until the body gets used to the movements.

When associated with the six categories about the concept of creative writing from Barbot, which among them are

a. General Knowledge and Cognition

General knowledge and cognitive factors are very important in the development of writing skills. They include intelligence, particularly verbal intelligence and working memory. One example of verbal intelligence is like making writing, such as diaries, short stories, or even poetry. Meanwhile, working memory is a temporary storage system for information in the brain. There are two types of working memory, namely short-term working memory and long-term working memory. Short-term memory is related to memory that lasts a maximum of 30 seconds. Meanwhile, long-term memory is associated with a label as explicit memory, semantic memory and implicit memory. When related to verbal intelligence and working memory, an example of creative writing is given, someone who remembers an event that has been experienced or a study of the imagination can be written in a short story or poetry.

b. Creative Cognition,

The second is creative cognition. Creative writing requires originality, or the ability to generate unique ideas and selective combinations, a component of creative cognition, supported by a higher-order construction: imagination. Imagination is a fun form of thinking that creates new patterns of meaning by leveraging previous experiences. develop a thought that is broader than what has ever seen, heard, and felt. With imagination, Humans develop something from simplicity to be more valuable in the mind.

c. Process Functions

The functions here can be exemplified, such as planning and organizing ideas, which are at the core of the writing process. So, it is very clear that if students want to write they must be able to sequence the ideas from an imagination they produce.

d. Motivational and conative factors

There are two types of motivation, namely intrinsic motivation, which is the motivation that arises from a person, there is no need for external stimulation. It could be said that intrinsic motivation appears to be one of the main conative dimensions. As an example, if someone likes listening to songs, reading, or writing, without being told they will do what they should do. and

Different from intrinsic motivation, extrinsic motivation is the motivation that comes from outside or from other people. But an extrinsic motivation is also useful in the writing process, to help students get through difficult writing assignments.

To make students able to write creatively, it must require motivation or encouragement from within and without. For example, in a writing process, a student must have the motivation or desire to express his or her ideas. However, when a student reaches a dead end or his enthusiasm is lost, another person is needed who can encourage him to keep writing.

e. Linguistics and Literacy

Meaningful writing demands the translation of ideas into written form and linguistic skills such as the ability to construct sentence structures and construct meanings using context; elaboration, detail; description, the use of words to evoke the reader's visualization and imagination.

f. Psychomotor factors

The psychomotor factor here is something related to muscle work and physical abilities. This factor is

classified as rarely noticed but has a big impact on writing skills. In essence, students must be trained in the ability to write by hand. Even though as we know in this pandemic era and in the digital age, all learning activities use gadgets, don't forget about writing activities using stationery to stimulate psychomotor.

4. CONCLUSION

Neurolinguistics is a field of study consisting of linguistics and medicine that studies the relationship between language and the human brain which is linked to cognitive neuroscience and sensory and cellular movement. There are four pillars that must be considered in neurolinguistics, namely outcome, rapport, sensory acuity, and flexibility.

The role of Neurolinguistics in writing creative short stories consists of six factors that must be considered, namely general knowledge and cognition, creative cognition, process, motivation and conative, linguistics and literacy, and psychomotor. Neurolinguistics also studies the structure and parts of the human brain, including the cerebrum (large brain), cerebellum (cerebellum), brainstem (brain stem) and limbic system (limbic system). The part that is closely related to writing is the cerebellum (cerebellum).

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