# A Neuroscience Implementation in Learning English *tobe* for English Learners in Indonesia

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**Abstract:** As a lecturer who teaches English grammar every first and second semester to college students in campus, the researcher found out that most of the students, who have studied English since they were in the Primary School, didn't understand how to use English tobe such as *is, am, are, was, were*, etc. As the researcher asked them, they said that English was so difficult to understand especially the when they learned about English Tenses. Most of them said that they were only told to memorize the English verbs especially the Irregular verbs and then they were asked to make sentences using those words. They also said that most of their English teachers when they were at schools seldom spoke English actively in the classroom. That was why their pronunciations in speaking English words were still passive. They were still shame to talk in English when the reseacher asked them to use English actively in his English class. The reseacher focuses to discuss some strategies in learning English tenses effectively tenses especially the usage of English tobe and the three simple tense namely simple present, simple pasts, and simple future tense.

**Key words**: English 'tobe'; Non-verb Sentence; Simple Present Tense; Simple Past Tense; Simple Future Tense.

## Introduction

The brain is the center of all body functions. If the brain is disrupted, then the activity of thinking and physical health can also be disturbed. In learning, humans need an active and healthy brain which encourages the body and mental to work well. Related to that matter, many experts and psychologists conduct research on how the brain works so that humans can improve their thinking skills in doing activities now and in the future. One of scientific studies about brain is called *neuroscience*. Neuroscience is a science that specializes in studying nerve cells or neurons.

Learning Neuroscience is very effective for every educators because they will know how to make an excellent methods and strategies in conveying their knowledge effectively for their students. Neuroscience is about to know the neuro of brains. In learning activities we find that each human brain processes everything when he listens and sees in his daily life. Neuroscience is a study about the neuro systems, brain, conciousness, perception, memory and learning. Every human being is born with brain. The human is ready to learn everything by the brain process.

## Research problem

This rearch problem is about an implementation of neuroscience in learning English especially in learning English tobe for Indonesian students. The problem of this research is how to implement *Neuroscience* in find in teaching English tobe for English learners in classroom.

### The significance of this researh

The main goal of this research is find out an implementation of Neuroscience to get some effective strategies (the combination of explanations and practices, in learning English tobe for English learners in classroom.

The significances of this researh are:
1. A reference to problem solving in learning English tobe
2. A study of a neuroscience in Education
3. An input and suggestion to every Educators especially for English teachers
4. As a model in teaching English tobe for Indonesian students who learn English

## Theoretical Review

### Neuroscience

Neuroscience is the scientific study of the nervous system. It is a multidisciplinary branch of biology that combines physiology, anatomy, molecular biology, developmental biology, cytology, mathematical modeling and psychology to understand the fundamental and emergent properties of neurons and neural circuits.

Ferebee, Susan & Davis, W James (2019) mention that neuroscience ties measurable observations about cognitive behavior to physical brain processes that support these behaviors. Oktar (2006) writes that there are four key neuroscience concepts, they are: 1) consciousness, 2) perception, 3) cognition, and 4) behavior. She also mentions that consciousness is a natural phenomenon. An individual has an access to his own consciousness, but he cannot see the other's consciousness. In a state of consciousness, the learning as well as the memory become two factors of neuronal state which influence perception and behavior change.

### Educational neuroscience

Sylvia (2019) says that neuroscience in education is mostly challenging in terms of apply interdisciplinary rules that can be used to prove certain positive assumptions about the human brain. Stein & Fischer (2011) mention that it is expected to see many researchers in the field to embrace the challenges whether their ambitions are to collect empirical evidences or just to answer the public's questions (Stein & Fischer, 2011). The researcher hopes that a learning method using neuroscience theories applied within the classroom.

### Learning Methods

Bersin & Associates (2010) mentions that organizations leading the field in learning practices must integrate; a) innovative content b) engaging instruction c) blended methods d) interactive technology e) business alignment f) robust measurement g) program management. Sylvia (2019) says that the neuroscience field provides both insights and pragmatic guidelines for the enhancement of learning and development practices. One example is the work of Lila Davachi, Associate Professor of Psychology at New York University, who offers the acronym AGES to highlight four key criteria that her research has shown to be necessary for effective learning. They are:

**a) Attention**: The attention focuses for someone's concentration on the task or concept without distraction. To learn something new needs focused attention. If someone wants to learn about new information, it must be interesting or meaningful and there must be limited distractions.

**b) Generation:** The generation focuses how a learner has a direct interaction with the learning task to generate his own thinking. Illeris (2010) How an adult learns differs markedly from a child. Children learn their world in an uncensored way and place total confidence in the adults surrounding them. In the contrary, adults learn and choose what they want selectively if it is relevant to and interesting for them. Adults build on prior learning and take as much responsibility as they want for their ongoing learning.

**c) Emotion:** An emotion binds memory. It is like adding fuel to a flame. An emotion can ignite more neuronal activity in more brain centers and, consequently, can burn a deeper pathway.

**d) Spacing.** A relatively simply, but underutilized, way of improving learning outcomes is to ©

reconsider how we 'space' content. The limitations to prefrontal cortex capacity come into direct play when we are learning, as new information must take this route to be embedded as acquired skills and knowledge.

Illeris (2010) mentions that adult learning differs markedly from childhood learning. Children absorb everything about their world in an uncensored way and place total confidence in the adults around them. Adults selectively choose what they learn based on what is relevant and of interest to them. Adults build on prior learning and take as much responsibility as they want for their ongoing learning21. As a result, self-directed learning methods are highly effective in adults.

Immordino-Yang & Fischer (2010) stated that "The brain is a dynamic, plastic, experience dependent, social and affective organ" and is not just engaged in, but driving, its own learning. Merriam (2010) stated the more the brain is proactively involved in its learning, the more effective it becomes. This is why the self-generation of ideas, strategies and actions is so critical in adult learning. With the focus on relevance and immediacy, adults learn best by taking a problem-centered, rather than a subject-centered, approach.

Dieleman & Huisingh (2006) mentioned that emotion, of course, does not need to be negative. We learn better when we are in a happy, positive mood and when we are having fun. Research, for example, shows that including games in learning programs with relevant context, requiring challenging technical skills and appropriately debriefed on completion, add to the learning outcomes of all four of the Kolb learning styles (concrete experiences, reflective observation, abstract conceptualization and active experimentation).

## Method of Reserch

### Classroom-based Research

Classroom-based research, also known as Teacher Action Research, is the kind of practical, get down in the dirt research that educators can use to improve student learning. It is not focused on getting published (although classroom-based studies may be published) but rather on improving student learning. Some people call this "Action Research" because the focus is more on the actions you will take to improve things rather than on developing highly technical research methods.

The term classroom-based research does not refer to a specific methodology or topic so much as it refers to a way of thinking. The goal is to use a well thought out process to collect data that can help you answer questions. For example classroom-based research could help you answer questions such as:

- What skills do my students enter my class with?
- What are my student's perceptions of what they will learn in my class and how do those perceptions affect how well they perform?
- From my student's perspective how does a person's cultural background affect his or her learning styles?
- Is culture a factor in my class that relates to student performance?
- Can I improve student learning by implementing a new approach to teaching a particularly complex topic?

Catherine (2019) writes that the interaction in the classroom – in particular, the talk around texts – is at the heart of the study, the course materials, student diaries, reading protocols and follow-up student interviews are also a crucial part of the overall research. What these data sets share is that they all consist of language, whether as processes or products. With the classroom interaction, I examine language data as process, that is, the interaction between teacher and students, or student and student, as a 'site where meanings are created and changed' (Taylor in Wetherell et al. 2001: 6).

**The purpose of classroom Research**

Millar (2016) stated two reasons why qualitative research is the appropriate approach for classroom research. They are:

1) The first reason is to do with the nature of classrooms. Primary school classrooms, for example, have a lot in common but each is, at the same time, unique. Each is a small but complex social world, requiring constant interpretation and challenging the teacher's understanding. Teachers and children are active creators and negotiators of what goes on in their classrooms. What things mean to them is of primary importance. The key question in qualitative research – 'What is happening here?' – is a question that needs to be asked again and again in the daily life of classrooms. Furthermore, there are ethical reasons for viewing the classroom as a natural situation to be understood rather than a site for an experiment or the measurement of variables. Children and teachers are actors whose motives and meanings have to be respected, engaged with and understood through language and observation rather than measured within predetermined categories.

2) The second reason why qualitative research is an appropriate approach is to do with the purpose and context of classroom research. Its purpose is to deepen understanding of some aspect of learning and teaching; its hope is that such understanding will inform improved practice. The main beneficiary of such research will be the researcher, whether he or she is the teacher of the class being studied or possibly intends to become a teacher. Classroom research is usually practitioner research. It implies a deepened professionalism for the teacher: a commitment to researching one's own practice.

The important thing is that a qualitative approach begins with participants' intuitive understandings of the situations in which they find themselves in. It does not displace these common-sense understandings with 'better', more objective or scientific ones. It respects where teachers are and gives them the skills and security to examine, critique and build on their early taken-for-granted assumptions.

## Result and Discussion

**Results of Interview**

The interview session conducted in the second meeting after the teacher introduced the material Engliah II as well as asked the students score of their *English One* subject. The researcher asked two questions to his respondents. The two questions are:

a) What causes you to get a score below 50 in your exam of English subject?

b) What methods do you expect from your lecturer/teachers so that you are interested in learning and understand English Structure well?

The respondents' answers are quite the same. From the students' responses, the researcher concluded that two main causes that made them fail their English course in the first semester were:

• The lecturers only explained the material in one way. The educators were very passive. There was no any activity done by the students except answering all questions given by their lecturers.

• The lecturers of their English subject gave less attention to the students, especially those with poor English skills.

The responses given by the students to the second questions are that they are very grateful if lecturers will give some interesting activities in the classroom related to the materials explained by their lecturers. It will be more exiting for them to learn English by active learning method which the lecture explains and the students respond and practice actively. The hope their English lecturers should master the lesson before explaining it to them. They said that some of the lecturers did not explain the material confidently and clearly. Some of them considered that their lecturers did not

master the lesson at all. So how could they understand the lesson if the lecturers themselves could not deliver the lesson confidently?

**Practice of Teaching and Learning English *tobe***
**A. First Meeting**
   The teacher explain the explanation of 4 main word class namely:
   a) Noun
   b) Adjective
   c) Verb
   d) Adverb

**Student's practice**:
      The teacher asks each student to mention examples of those four word class. After all students have their turns to speak, then they are asked to choose a partner to have games in guessing word class. A student mention a word and then his partner guess the word class of the word. The rest of the students then analyze all together if it is the correct or incorrect word class. Here, the teacher is only an observer as well as a guide. When all the students arguing ang confused, the teacher gave explanations.
      For students' preparation to learn by themselves, student-centerred learning, the lecturer give every student 8 different words including tobe (is, am, are, was, were, be), adjectives, verbs, nouns, adverbs, and some additional words such as conjunctions and prepositions. Each words is typed horizontally in full-page word document. The font size is approximately 120-200 font size so that it can be easily seen by the students from all sights of the classroom. After typing those words, the students print them all. Ecah students are asked to bring them in the next meeting fot their own material in learning English Grammar.



Figure 1.
The students write down all the words given to them to type, print, laminate, and bring in the next meeting for their own material in learning English grammar by student centered learning method.

**B. Second Meeting**
   The teacher then continue to explain about three English simple tenses. The teacher emphasizes that these three tenses are very useful in our daily communication. If we want to tell

other people about our daily activities, we certainly use *simple present tense*. If we want to tell other people about our experiences or our unforgettable moments in our life we always used *simple past tense*. And if we tell others about our ambitions or goals in our life, we always use *simple future tense*. So, those three tenses are about the *life cycles of human beings*.



Figure 2.
The students actively arrange some sentences by using printed document they made in the first meeting.

a) The tobe for simple present tense: is, am, are
   The tobe for simple past tense: was, were
   The tobe for simple future tense: be
b) The tobe is used for non-verb sentences, such as for adjectives, nouns, and adverbs.
   Examples:
   I <u>am</u> a *student*. *Student* is a noun
   She <u>is</u> *beautiful*. *Beautiful* is an adjective
   We <u>are</u> in the *classroom*. *Classroom* is an adverb of place
   To day <u>is</u> *Monday*. *Monday* is an adverb of time
c) The tobe is used only for verbs in making Passive Sentences and the V-ing form (continous tense)
   • You are listening to me. The *tobe* is followed by V-ing form
   • The book was bought by may father last night. The *tobe* is followed by the past participle verb (V3)

**Student's practice**:
       Each student are asked to make three non-verbal sentences. They are asked to speak actively without writing the sentences on their books. This strategy will trigger their mind to think actively and eager to speak actively in front of their friends. Tell all the students not to laugh of make some fun if their friends mistakenly pronounce some words while they are speaking.

**C. Third Meeting**
   *Focus*: The using of to be of Simple Present Tense (is, am, are)
   *Tools*: using the printed documents. Put all the papers on the teacher's desk.
 Each student is asked randomly to come forward and have him to arrange a nonverb sentence in *Simple Present Tense form* by using the printed documents available on the teacher's desk. Each of them is only given three minutes to make a sentence. After picking up the papers, have him show the papers which show his sentence in front of the class. The rest of the students are asked to raise

their hands if the shown sentence is correct or incorrect. After that ask the pros and cons about their opinion why the sentence is correct or incorrect. And then the teacher will tell wether the sentence is correct or incorrect and give more explanation to all the students.

**Emphasis:**

a) Explain again about the usage of tobe. The tobe is used for non-verb sentences, such as for *adjectives*, *nouns*, and *adverbs*.

Examples:

- I <u>am</u> a **teacher**. *Student* is a noun
- You are my friend. *Friend* is a noun
- She <u>is</u> **cute**. *Cute* is an adjective
- They <u>are</u> in that **hotel**. *Hotel* is an adverb of place
- It <u>is</u> **6 o'clock**. *6 o'clock* is an adverb of time

b) The tobe is used only for verbs in making Passive Sentences and the V-ing form (continous tense)

- She **is writing** a letter now. The *tobe* is followed by V-ing form
- Those candies **are eaten** by my little sister. The *tobe* is followed by the past participle verb (V3)



Figure 3.
The students actively arrange sentences in simple present form by using printed document they made in the first meeting.

### D. Fourth Meeting

**Focus**: The using of "to be" of Simple Past Tense (was, were)

**Tools:** using the printed documents. Put all the papers on the teacher's desk.

Each student is asked randomly to come forward and have him to arrange a nonverb sentence in *Simple Past Tense* form by using the printed documents available on the teacher's desk. Each of them is only given three minutes to make a sentence. After picking up the papers, have him show the papers which show his sentence in front of the class. The rest of the students are asked to raise their hands if the shown sentence is correct or incorrect. After that ask the pros and cons about their opinion why the sentence is correct or incorrect. And then the teacher will tell wether the sentence is correct or incorrect and give more explanation to all the students.

**Emphasis**:

a) Explain again about the usage of tobe. The tobe is used for non-verb sentences, such as for *adjectives*, *nouns*, and *adverbs*.

Examples:

- I **was** *a student* of senior high school last year. *Student* is a noun
- You **were** *angry* with her this morning. *Angry* is an adjective

She **was** *here* just now. *Here* is an adverb of place

- 

b) The tobe is used only for verbs in making Passive Sentences and the V-ing form (continous tense)

  - I *was watching movie* when my mother knocked my room's door last night. The *tobe* is followed by V-ing form
  - They *were eating* dinner when their guest rang the bell this morning. The *tobe* is followed by the past participle verb (V3)
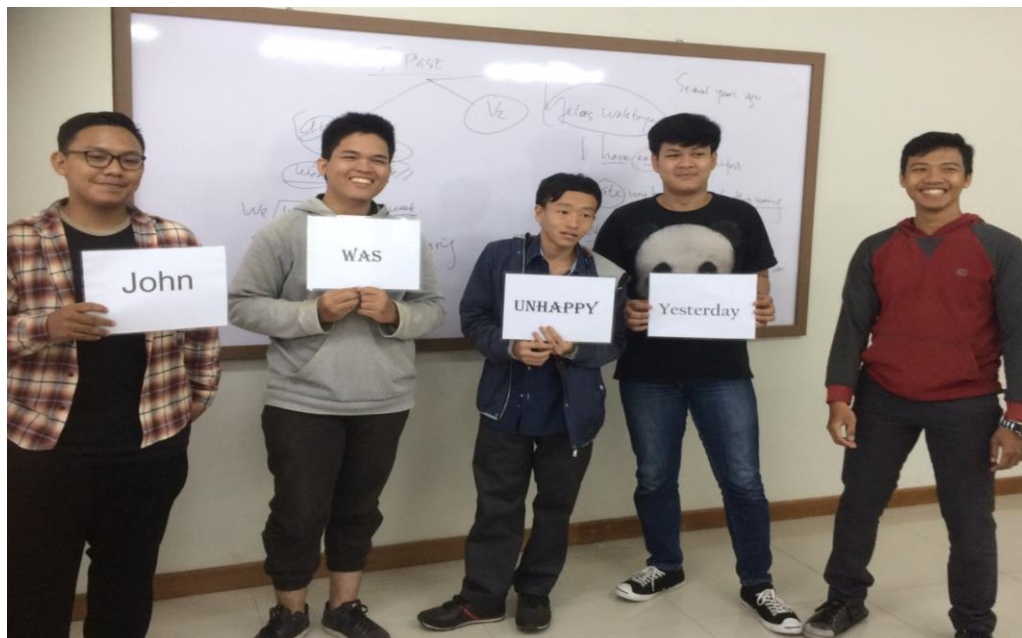


Figure 4.
See the picture below how my students arranged a sentence of non-verb in simple pas tense by using the printed document given them on the teachers desk.

**E. Fith Meeting**

**Focus**: The using of "to be" of Simple Future Tense (be), and emphasize the students that auxiliary 'will' must used before the tobe.

Example:

- I **will** *be* there soon.
- She **will** *be* here tomorrow morning.

**Tools:** using the printed documents. Put all the papers on the teacher's desk.

Each student is asked randomly to come forward and have him to arrange a nonverb sentence in *Simple Future Tense* form by using the printed documents available on the teacher's desk. Each of them is only given three minutes to make a sentence. After picking up the papers, have him show the papers which show his sentence in front of the class. The rest of the students are asked to raise their hands if the shown sentence is correct or incorrect. After that ask the pros and cons about their opinion why the sentence is correct or incorrect. And then the teacher will tell wether the sentence is correct or incorrect and give more explanation to all the students.

**Emphasis:**

a) Explain again about the usage of tobe. The tobe is used for non-verb sentences, such as for *adjectives*, *nouns*, and *adverbs*.

Examples:

- She will **be** *a teacher* someday. → *teacher* is a noun
- You will **be** *in that city* next day. → *in that city* is a adverb of place
- It will **be** *broken* someday. → *broken* is an adjective

b) The tobe is used only for verbs in making passive sentences and the **V-ing** form (continous tense)
- She will **be** *standing* there as a winner someday. → the tobe is followed by V-ing form
- The cake *will be bought* for me by my father tonight → the tobe is followed by the past participle verb (V3)

## Conclusion

After practiced these methods in teaching English tobe for the students in higher education, the researcher saw a very significance improvement in the students' abilities in using English tobe. In addition they can differ English word class such as adjectives, adverbs, nouns, and verbs. The researcher found out the students more active and comfortable in learning English grammar.

The researcher hopes that this method can be used my other English lectures as well English teachers in Indonesia to be performed in their English class especially in teaching English tobe. The researcher suggests to other researchers to design more effective strategies or methods in of English teaching so that the students can learn English comfortably and can improve their ability in English communication in their academic activities as well as n thir daily life.

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