Students' Learning Achievement with Different STIFIN by using E-Learning Scientific Approach

by

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Abstract

This employs quantitative and qualitative research approaches and the data collection technique used the learning interest scale. The data analysis technique used qualitative descriptive analysis to get a picture of attitude, response, and responsibility when learning English e-learning based on the Scientific Approach according to each IM. The results of this study indicate that there is a significant effect of using e-learning based on a scientific approach on the English learning outcomes of SDIT AL Fauzi Medan. Furthermore, the results of the observation sheet generally show the attitudes, responses, and responsibilities of students according to the intelligence machine "sufficient." Intelligent thinking machines have better attitudes, responses and responsibilities when participating in learning compared to other intelligence machines.

Keywords: Learning outcomes, STIFIn Intelligence Machine (IM), Scientific Approach.

Introduction:

Based on the theory of multiple intelligence by Harvard University education expert, Howard Gardner (2007), there are eight human bits of intelligence. More specifically, the mapping of the hemispheres is packaged in the STIFIn method by Farid Poniman, namely the left limbic shows the intelligence machine (IM) Sensing, the left brain shows IM Thinking, the right brain shows IM Intuiting/imagination, the right limbic shows IM Feeling and the middle brain shows IM Instincts. These findings are very significant as a reference for the approach to learning methods and patterns in accordance with children's IM because each child has special characteristics that can be seen from their personality, traits, basics, hobbies, natural talents, and learning patterns. In connection with the theory above, it is very necessary to know (1) Measuring the effectiveness of the Scientific Approach on students' English learning outcomes through an experimental quantitative approach. (2) Formulating the extent to which the Scientific Approach provides different effects to students with different IM by paying attention to their attitudes, responses, and responsibilities when they are given the scientific approach.

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It has been known that the development of learning and learning theories throughout centuries are named among the few, behaviorism, cognitivism, humanism to constructivism. However, there are still many complaints from educators about student learning outcomes that have not achieved in satisfying results. Moreover, if it is traced to remote areas in Indonesia, it is still found that many elementary school students are not able to achieve the competency in learning English achievement as stated in the curriculum/syllabus. This gives a clear indication that improving education is not enough to develop learning methods alone, but there must be synergy with other supporting factors for learning outcomes.

Related factors include internal students, human resources, learning facilities, central and local government policies, learning methods, and so on. Even though it is not easy, efforts to improve one by one the supporting factors are very important even though it requires a long effort and does not necessarily finish instantly and simultaneously. If each factor is corrected, synergies will be created that support each other in realizing the lofty ideals of the 1945 Constitution, namely the intellectual life of the nation.

One of the factors that greatly determines the success of student learning is the internal factor, namely the personality traits and natural talents they have. Starting from these empirical findings, teachers and parents should stop thinking that educating and teaching children is difficult because the first step in teaching and educating is to understand learning patterns that are in accordance with the character of the child.

Children's learning patterns cannot be known directly, therefore education stakeholders need a STIFIn test kit by scanning 10 students' fingers. The findings of previous researchers show that the results of the STIFIn test help teachers and parents to understand the learning patterns of each child so that it is easier for teachers to balance the learning process with the pattern.

The methods of teaching and learning English for elementary students that are often used by teachers in Indonesia is graphic organizers, total physical response, mimicry, and recitation. Graphic organizers are dominant in filling in the pages of student assignments. However, the procedures for using the graphic organizers method are still not perfectly implemented by teachers. Through this research, researchers will also train teachers in schools, where the research is located, to become proficient and master learning procedures based on a scientific approach.

Research Problems:

i. How is the effectiveness of the scientific approach to language learning outcomes?
ii. How does the scientific approach provide different effectiveness by paying attention to attitudes, responses and responsibilities when given treatment?

Research Objectives:

i. To find out the effectiveness of the scientific approach on students' language learning outcomes.
ii. To find out the extent to which the Scientific Approach provides different effects to students with different IM by paying attention to their attitudes, responses and responsibilities when given the scientific approach.

Significances of the Study:

i. Improve students' English learning outcomes.

ii. Finding solutions from the point of adjusting children's learning patterns with learning methods.
iii. As a form of implementation of the continuation of the Research Strategic Plan of University, namely the position of the research proposal is in the excellent research center for the study of education and family empowerment Leading field research is included in the theme of curriculum and character development.

Literature Review:

Departing from the results of previous research indicated in a theoretical study supports, one of the factors that greatly determines the success of student learning is internal factors, namely the personality traits and natural talents they experience. Starting from these empirical findings, the results of previous studies can be categorized as follows.

Learning Outcomes:

Dimyati and Mudjiono (1994) define learning outcomes as a process to see the extent to which students can master learning after participating in the teaching and learning process or the success achieved by a student after participating in learning activities marked by certain numbers, letters, or symbols agreed by the parties. education providers. A student can be said to have achieved the results of learning English class I SD if the student is able to achieve the learning outcomes contained in the curriculum as follows:

Attitude:

According to Damiati, et al (2017), attitude is an expression of a person's feelings that reflects his liking or dislike for an object. Meanwhile, according to Kotler and Amstrong (2010), Attitude is an evaluation, feelings, and tendencies of someone who consistently likes or dislikes an object or idea. From some of the above definitions, it can be concluded that attitude is a person's reaction to certain objects that are positive or negative which are usually manifested in the form of feeling like or dislike, agree or disagree with a certain object.

Response:

The term response in communication is a communication activity that is expected to have a result or after communication, it is called an effect. A communication activity that gives the effect of a response from communication to messages launched by the communicator. According to Steven M. Chaferespon (in Rakhmat, 2009) can be divided into three parts:

i. **Cognitive:** what is meant by cognitive response is a response that is closely related to a person's knowledge of skills and information about something. This response arises when there is a change in what the public understands.
ii. **Affective:** what is meant by affective response is a response related to emotions, attitudes, and judging someone about something.
iii. **Conative (Psychomotor):** what is meant by psychomotor is a response related to real behavior which includes actions or habits.

Responsibilities:

Fitriastuti (2013) said that responsibility is a person's attitude/behavior to carry out his duties and obligations, which he should do, towards himself, society, environment, country and God Almighty. Hurlock (2006) said that self-generation and self-monitoring are part of the responsibility for various thoughts, feelings and behaviors in order to achieve goals. The ability to effectively manage one's own learning experience in various ways so as to achieve optimal learning outcomes. Manage their feelings, thoughts and behavior and can manage their thoughts, feelings and behaviors effectively so that they can achieve their learning outcomes at school.

STIFIn:

STIFIn is a description of sensing (abbreviated as S), thinking (abbreviated as T), intuiting (abbreviated as I), feeling (abbreviated as F), insisting (abbreviated as In). The STIFIn concept was introduced by Farid Poniman (2010) by compiling various theories of psychology, neuroscience, and HR. The grand principle refers to C.G Jung's concept (2018) of a single intelligence. The test is done by scanning the ten fingertips (taking no more than one minute). Fingerprints that carry information about the composition of the nervous system are then analyzed and linked to certain hemispheres of the brain that play a dominant role as an operating system and become a type of intelligence.

The nervous system can still predict the location of the dominance of the intelligence machines in the white layer of the brain or the gray layer of the brain. Basically, every student has a dominant character of intelligence. The dominant character is the main strength to improve learning achievement. This is what is next, it is important for students to know the potential/strengths that exist in them in optimizing their abilities.

Purpose of the STIFIn Test:

By doing the STIFIn intelligence machine test, students will recognize machine intelligence which is their main strength. So that they can feel the comfort and enjoyment of learning and they can more effectively use the energy and time they use efficiently.

Benefits of the Stifin Test:

The benefits of the STIFIn intelligence machine test in education for students and teachers:

i. Students and teachers can find the best way to achieve noble success.
ii. Students are able to optimize their potential and students also know how to learn effectively.
iii. Educators are able to innovate in developing learning strategies for students in dealing with students based on their intelligence machines.
iv. Educators are able to develop teaching materials and assignments based on the intelligence machine of each student.
v. Achieving learning outcomes with good and satisfying results as well as producing fantastic work.
vi. Obtaining an overview of the process to success as well as choosing the right field / vocational.

Intelligence Machine Mapping:

In the STIFIn concept, the following is an explanation of each learning pattern according to each IM:

i. **Sensing Learning Patterns:** A fun way of learning for the sensing type is to memorize or record visually and learn directly from the senses. This type of sensing will learn very easily if what it is in a concrete form, can be seen, touched, or felt. Besides, the facilities that support learning are needed by this type.
ii. **Thinking Learning Patterns:** A fun way of learning for the thinking type is to analyze something so that all the abilities of the brain are trained. The systematic way of thinking, able to scheme a problem becomes simple. For this reason, information media, either internet connection books, or laboratories, are excellent supporting items for this type.
iii. **Intuiting Learning Patterns:** A fun way of learning for the intuiting type is by conceptualizing, imagining, and creating a new theory. Technical learning is more fun with the mind mapping method, making a big picture then breaking it down. A book with a blank paper is a friend of this type, because of the trajectory of new ideas or things that are always present in his mind.
iv. **Feeling Learning Patterns:** A fun way to learn for the feeling type is to listen and discuss with colleagues. This is because the location of his strength in learning is from his ears (hearing). If this type learns on their own preferably in a voice. Or if you really forget the learning described by the teacher, it is also good if you then try to record the learning session and then repeat it at home.
v. **Instinct Learning Patterns:** An enjoyable way of learning for instinct types is to summarize what was learned. Rewriting a lesson becomes strengthened. For this type, it is necessary to pay attention to the learning atmosphere, meaning that a comfortable atmosphere and not under stress conditions will be conducive support in making this type successful in versatility-usually in any lesson.

Scientific Approach:

Astuti and Prasasti (2019) scientific spproach is a method that is used scientifically, generally, it requires observations related to the formulation of hypotheses or scientific methods of collection. In general, based on observational or experimental data. Zaim (2017: 34) says that the Scientific Approach is the process of seeking information in science, anything that involves testing ideas by experimenting and making decisions based on the results of the analysis.

The Procedures of Scientific Approach:

Majid and Rochman (2014: 2) Scientific Approach is learning that is intended to observing, questioning, associating, experimenting and communicating. They are described as follows:

i. **Observing:** The method of observing prioritizes is the meaningful learning process. The method of observing is very useful for fulfilling the curiosity of students so that the learning process has high meaning. With the method of observation, students find the fact that there is a relationship between the object being analyzed and the learning material used by the teacher.

ii. **Questioning:** In the 2013 curriculum, questioning activities are expected to emerge from students. Learning to ask questions is done by asking questions about the information that is not understood from what is observed or questions to get additional information about what is observed.
iii. **Associating:** The activity of gathering information is a follow-up to asking questions. This activity is carried out by exploring and gathering information from various sources in various ways. Students can read various sources, pay attention to phenomena or objects that are more accurate, or even carry out experiments.
iv. **Experimenting:** In the activities of associating / processing information, there are reasoning activities within the framework of the learning process with the scientific approach adopted in the 2013 curriculum to illustrate that teachers and students are active actors. The reasoning is a logical and systematic thought process on empirical facts that can be observed to obtain conclusions in the form of knowledge.
v. **Communicating/Networking:** In the scientific approach the teacher is expected to provide opportunities for students to communicate what they have learned. This activity can be done by writing down or telling what was found in the activities of seeking information, associating, and finding patterns.

Research Methods:

A mixed-method or combination method is used by researchers in carrying out this research. Creswell, Klassen, Plano Clark and Smith (2011) said that mixed method research provides guidance when collecting and analyzing data and mixing the two approaches (qualitative and quantitative) in a series of studies. The use of qualitative and quantitative approaches together (combined) is able to provide a better understanding of the research problem than being used separately.

Research Procedures:

The stages carried out during this research are: 1) the pre-research stage, 2) the validation stage of the research instrument, 3) the stage of designing an English learning program based on graphic organizers, 5) the quantitative data analysis stage, 6) the qualitative data analysis stage, 7) the conclusion.

Data Collection Techniques:

Following are the data collection techniques needed in this research:

i. **Test:** This test is used to determine learning outcomes including pre-tests (conducted before learning) and post-tests (carried out after teaching) and graphic organizers.
ii. **Observation:** Researchers observed students and teachers in the implementation of learning which included their attitudes, responses and responsibilities with the help of video documentation techniques and daily notes.
iii. **Questionnaire:** Researchers used questionnaires intending to retrieve data from students after learning is done. This questionnaire aims to see what things they have gotten from the learning that has been done and to find out how they feel about the learning that has been done.

iv. **Interview:** In-depth interviews were conducted with students, teachers and parents to further explore the responses/suggestions of teachers and parents after receiving the experimental conclusions and observations. Furthermore, they explore their suggestions to support the continuity of the research until the researcher finds a standard formula for adjusting children's learning patterns and teaching methods according to their IM.

Research Results and Discussion:

It can be concluded that the activity of students in the experimental class with learning the scientific approach is more increased compared to the activities of students in the control class with conventional learning. Experimental class students are more enthusiastic about learning, while student activity in the control class sometimes increases and sometimes decreases. This is because conventional learning does not encourage students to be enthusiastic about learning. Scientific approach learning allows students to learn at their own pace based on their respective backgrounds and habits.

The high average learning outcomes of students in the experimental class cannot be separated from the activities carried out by students, because successful learning must go through a variety of activities, both physical and psychological activities. Psychic activities such as thinking and physical activities such as doing. Without doing the child does not think. In order for him to think for himself (actively) he must be given the opportunity to act alone.

The experimental results show that the quality of students' English learning outcomes taught using the scientific approach can improve. This can be seen from the results of the scores for each experimental class and control class. The average class value of students taught with the scientific approach learning is higher than the class average value of students who are taught with learning without the scientific approach. This fact is reinforced that the percentage of students' learning completeness in the experimental class was 79.16%, while in the control class it was 47.91%. The data also shows that the mastery of the experimental class subject matter is high, while the control class is still low because there are still many who get low scores.

Based on the theoretical study proposed and from the results of data analysis, it can be concluded that the learning outcomes of students using the scientific approach are better than the control class. It can be seen that the results of students' English learning using the scientific approach learning can increase, the increase achieved is greater than conventional learning. This means that the hypothesis is accepted, that is, there is a significant influence on the use of the Scientific approach on the English learning outcomes of SDIT Al Fauzi Medan students.

Based on the results of the analysis of the observation sheet about the attitudes, responses and responsibilities of students when learning English using the e-learning scientific approach, it can be concluded that in general, it can be concluded that the attitudes, responses and responsibilities of students who have an instinctual intelligence machine when participating in e-learning scientific approach-based English learning are "sufficient" but there are some special findings as follows:

i. Students with sensing intelligence machines are more active and diligent in pointing their hands and asking questions to the teacher than other students.
ii. Students with intelligent thinking machines are calmer and focus on the assigned task.
iii. Students with intuitive intelligence machines are more prone to distraction.

iv. Students with a feeling intelligence machine are more likely to discuss and talk with friends who are nearby.
v. Students with instinctual intelligence machines tend to be more passive than others because they are calmer and more quiet during the learning process.

Conclusion:

It can be concluded that the learning outcomes of students using the scientific approach are better than the control class. It can be seen that the results of students' English learning using the scientific approach learning can increase. The increase achieved is greater than conventional learning. This means that the hypothesis is accepted, that is, there is a significant influence on the use of the Scientific approach on the English learning outcomes of SDIT Al Fauzi Medan students. In general, it can be concluded that the attitudes, responses and responsibilities of students who have an instinctual intelligence machine when participating in e-learning scientific approach-based English learning are "sufficient" except the students with thinking IM that shows a "good" attitude, response and responsibility.

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