

Stimulus-Response Theory: A Case Study in the Teaching and Learning of Malay Language Among Year 1 Pupils

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Abstract

This paper is about Stimulus-Response Theory which sees human behavior as a reaction to the stimulus (stimulus to response). This theory also emphasizes the importance of rewards or incentives to stimulate and influence what and how pupils do things, including how they learn. Therefore, this study focuses on the acquisition of language during the teaching and learning of Malay Language among year 1 pupils in a primary school in Seremban, Negeri Sembilan, Malaysia. Teachers have applied this theory to train the pupils repeatedly using drill method. For example, when the teacher teaches the skills mentioned in the Malay Language syllables i.e. KV + KVK spelling pattern, the teacher will ask the pupils to repeat the pronunciation of the word a few times so that they can pronounce it properly. In this situation, learning depends on the pupils mastery of the mentioned syllables and the teacher will continue teaching the word built by the syllables which are taught earlier. Next, the pupils are asked to give examples of words constructed according to the KV + KVK pattern of syllables and the process are repeated until the skill is mastered well. Through participating observation method conducted in this study, it is found that the acquisition and mastery of a language is a learning process that needs to be practised repeatedly. Thus, the process of language teaching can be done in a more systematic way and will also improve the pupils memory. Thus, the findings also shows that, the acquisition of language using Stimulus-Response Theory encourages pupils to learn a language with continuous reward and reinforcement and the teachers do not have to take too long to explain the learning topics.

Keywords: Language acquisition theory; Stimulation; Drill; Reinforcement; Reward.



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1. Introduction

There is a surprising quality in modern mainstream study of language acquisition. Despite decades of intense effort collecting observational and experimental facts, debate still rages as to the nature of the language learning child, and perhaps even the nature of language itself. This is somehow made more surprising when we consider the billions of in-home “laboratories” around the world permitting ever-present observation of a child’s development Dale (2004). Indeed, language researchers themselves doubtless diligently observe the growth of language in their own children (Tomasello, 1992). Nevertheless, these observations provide a stark portrait of the debate on language learning: Even given intense observation, individual observers can differ wildly on appropriate theoretical interpretations.

Hence, a theory is often seen as the backbone of all research efforts conducted by researcher in obtaining information for a study. According to Malay Dictionary Fourth Edition (2014), a theory is defined as an assumed opinion presented to explain something. Therefore, the use of theory is not only limited to researchers. On the contrary, unconsciously human has been applying theories in everyday life to try to understand and explore the self and the behaviour of others.

1.1. Stimulus-Response Theory

Language is a cognition that truly makes us human as we can express infinite ideas (sentences) with a limited set of symbols (speech sounds and words) (Lemetyinen, 2012). One of the earliest scientific explanations of language acquisition was provided by Skinner (1957). As one of the pioneers of Stimulus-Response Theory, he accounted for language development by means of environmental influence (Ambridge and Lieven, 2011). Skinner argued that children learn language based on behaviorist reinforcement principles by associating words with meanings. Correct utterances are positively reinforced when the child realizes the communicative value of words and phrases. Stimulus-response (S-R) theories are central to the principles of conditioning. They are based on the assumption that human behaviour is learned.

Other than B.F. Skinner, among the major pioneer in Stimulus-Response Theory is Thorndike. They argue that the language is acquired from repetition process, as according to them, things that happen in the human brain cannot be observed (Siti and Abdul, 2009). Therefore, they reject the function of the brain and cognitive operations in the acquisition of the language. This theory studies human behaviour, because human behaviour can be seen and measured. Basically, this theory looks at human behaviour as a stimulus to response. This theory also emphasizes the importance of reinforcement through rewards or incentives to stimulate and influence what and how people do things, including how students learn. According to Mahmood Nazar Mohamed (1990), positive reinforcement is the stimulus given after the occurrence of a behavior that increases the probability of the desired behaviour. Meanwhile, according to Mok Soon Sang (2008), positive reinforcement is a stimulus that can increase the probability of

repeating an operative behaviour. It can be concluded that this positive reinforcement is a stimulant that can cause a repeat of the desired behaviour.

2. Background of the Study

In teaching and learning in the classroom, teachers play an important role in facilitating the learning of students. Teachers should not only be able to provide an engaging and harmonious learning environment, but they also need to create effective teaching. Thus, here is the role of a teacher to think of a suitable learning theory to facilitate the learning. Learning theory is a process, principle and rules of learning resulted from a scientific study that explains how teaching and learning strategies can be applied by teachers. According to Stimulus-Response Theory, learning is a change in behaviour as a result of experience (Gage and Berliner, 1984) and as a result of the interaction between stimulus and response (Salvin, 2000). Someone is considered to have learned something if they can show a change of behaviour. According to this theory, what is important in learning is the input in the form of stimulus and output in the form of response. Stimulus is the input given by the teacher to the student, while the response is a reaction or response to the student's stimulus given by the teacher.

Through the context of language acquisition, Stimulus-Response Theory is a theory which emphasizes that, language acquisition in children happens through the process of grammatical digestion in the right form. According to this theory, the language acquisition is based on positive or negative enforcement (Siti and Abdul, 2009). Affirmation is a technique or process that uses reinforcing elements to strengthen and maintain response in language acquisition (Mok Soon Sang, 2008). This means that learning occurs when spontaneous behaviour changes, whether affirmed through rewards or weakened through punishment (Siti and Abdul, 2009). In language learning, environment has a very important influence on children. The influence of the environment's stimulation in the form of language and non-language will help children to master the language faster. Meanwhile, the reinforcement given will stimulate the children to repeat the conversation.

When teaching reading for example, a teacher can apply this theory by providing repeated or drilled exercises. For example, if the teacher wants to teach fluency of KV + KVK syllables, teacher could ask the pupils to repeat those syllables multiple times till they can pronounce it correctly. In this situation, learning depends on the mastery of the pupils. When pupils are fast learners, less repetition is needed, and if pupils are otherwise, more repetition will be needed for them to master the correct pronunciation. After pupils have mastered the syllables, teacher will teach words constructed from the syllables that have been taught. Students will then be asked to give examples of words constructed from the syllables. This process is repeated so that the skills can be mastered well. Therefore, this study was conducted to identify how the Stimulus-Response Theory was applied in language acquisition in teaching and learning of Malay language among the Year 1 students. In addition, the effectiveness of this theory in language acquisition among the pupils was also examined.

3. Objectives of the Study

The study was conducted with the following objectives:

a. To identify the forms of Stimulus-Response Theory applications in language acquisition of Year 1 pupils during the teaching and learning of the Malay language.

b. To compare the effectiveness of the different forms of application of different Stimulus-Response Theory in language acquisition of Year 1 pupils during the teaching and learning of the Malay language.

4. Research Methodology

This study employed participation observation, note-taking and interview methods when the Malay language teacher taught Year 1 Mawar at a primary school in Seremban, Negeri Sembilan. The researcher participated in the teaching session and made notes and analysis on the forms of application of Stimulus-Response Theory in language acquisition of the Year 1 pupils. Researcher also interviewed pupils with spontaneous interview methods to identify the effectiveness of different forms of Stimulus-Response Theory employed.

5. Findings

The findings of this study are presented in two sections. The first finding of the study is about the forms of application of Stimulus-Response Theory, through the Daily Lesson Plan (RPH) and the second finding is about the effectiveness of different forms of application resulted from spontaneous interviews conducted by researcher with Year 1 Mawar pupils during the Malay language teaching and learning session.

5.1. Findings of the Study: The Forms of Application of Behaviorism Theory

The findings of the study on the forms of application of Stimulus-Response Theory during the teaching and learning session of Malay language among Year Mawar pupils are shown through the Daily Lesson Plan (DLP) written by teachers. The researcher examined, analyzed and recorded the forms of application contained in DLP as in Figure 1.

Figure-1. The Year 1 Malay Language Teaching Plan

Subject: Bahasa Malaysia Year 1 Mawar
No. Students: 25
Time: 60 minutes
Theme: Nature is Beautiful and Safe
Title: Think Before You Throw
Main focus
 Content Standard
 5.2 Understand and utilize appropriate word formation in various situations correctly
 Learning standards
 5.2.1 Understand and use suffixes appropriately in various contexts
Complimentary Focus
 Content standard
 2.6 Editing and refining writing results
 Learning standard
 2.6.1 Editing writing products from the job aspects
Objectives:
 At the end of the lesson pupils will be able to:
 i. Recognize and use the suffixes by combining four out of five basic words with the correct affixes
 ii. Identify four out of five correct suffixes based on the worksheets provided in Attachment 3
Curriculum Input
 i. Knowledge: Moral Education
 ii. Values: Diligent, cautious, neat, clean, environmentally friendly
 iii. EMK: Entrepreneurship Creative and innovative
 iv. (HoTS): Thinking Skills (TS), Contextual, Multiple Intelligences (MI), learning how to learn (LHL)
Grammar Language Systems: Spelling, Suffixes
Vocabulary: paper, tin, plastic, bottles, recycling, newspapers, glass bottles, books.
Teaching aids: Recycling bins model, recycling materials, Sheet 2 (Line of Words), Sheet 3 (Combined Affixes), Sheet 4 (Mark it), Sheet 5 (Assessment), Sheet 6 (Remedial), Sheet 7 (Enrichment), Student Star Cards and recycled bookmarks.

Activities	Curriculum Input	Remarks
Induction Set (± 5 minutes) 1. Students are distributed with recyclable materials such as plastic bottles, papers, boxes, plastic straws, plastic bags, beverage cans and newspapers. 2. Teacher asks students to the name of the materials that have been distributed. 3. Students are required to throw recycled materials into the garbage bin model provided. 4. Teacher explains to students the benefits of recycling and links the activities to the teaching and learning session	Value: Love the environment Value Added Skills (VAS): Thinking Skills	Teaching Aids: trash bin model
Step 1 (± 15 minutes) 1. Teacher gives an explanation about the suffixes <i>an</i> and <i>kan</i> . 2. Students read the passage of the sentence given. 3. Students are asked to identify and outline the suffix <i>kan</i> contained in the passages. 4. Students are given reinforcement, successful students are given stars at the end of activity.	Language system - affixes Value Added Skills (VAS): Learn how to learn	Stimulus-Response Theory Students are reinforced with rewards. TA: Student Star Card
Step 2 (± 10 minutes) 1. Students are distributed with suffixes worksheet. 2. Students are asked to join the basic word with the suffixes <i>kan</i> and <i>an</i> . 3. Students are guided by teachers.	Language system - suffixes Value Added Skills (VAS): Learning how to learn Value: Love the environment	Stimulus-Response Theory Students do repetition and given rewards
Step 3 (± 20 minutes) 1. Students examine the images in the worksheets provided 2. Students identify the correct spelling based on the	Value Added Skills (VAS): Thinking Skills (Comparing and distinguishing)	Stimulus-Response Theory Students practice by repeating.

picture 3. Students mark the correct spelling 4. Students rewrite wrong words in the exercise book.	Thinking Skills- Recognizing and editing	
Assessment 1. Students fill in the blanks with appropriate words and suffixes 2. Students are asked to answer within the prescribed time 3. Reinforcement is performed, students achieving 4/5 objectives are awarded stars.	Knowledge: Skills in language systems (suffixes) ECI Entrepreneurship, creative and innovative	Stimulus-Response Theory Pupils do writing and oral activities. Teachers provide positive reinforcement (souvenirs) and enrichment activities (repeated practice) and positive reinforcement (restoration activities)
Remedial 1. Students are given worksheet. 2. Students are required to identify recyclable materials on the given worksheet. Enrichment 3. Students complete the sentence with the right affixes	Value Added Skills (VAS): Thinking skills (matching and distinguishing) Value Added Skills (VAS): - Thinking skills	
Closing (± 10 minutes) Cognitive Closing Summarizes the lesson through the process of questioning and discussing of what has been learnt. Suffixes <i>an</i> and <i>kan</i> Correct spelling of recyclable materials Types of materials that can be recycled	ECI Entrepreneurship, creative and innovation Value: Maintain cleanliness and love for the environment	Stimulus-Response Theory Rewards are given to students achieving the objectives.

Through the DLP, the researcher found that there are three forms of application of Stimulus-Response Theory performed by teachers, namely positive reinforcement; reward; and repetition in the following five teaching steps

Step 1: Pupils are rewarded with reward.

Step 2: Pupils repeat and earn rewards

Step 3: Pupils do the exercises on a recurring basis.

Assessment/Enrichment/Restoration: Students do writing and oral activities. Teachers give positive reinforcement (reminder) and enrichment activities (repeated practice) and positive reinforcement (remedial activities).

Closing: Reward is given to students achieving objectives.

Spontaneous interviews were conducted by researcher to Year 1 Mawar pupils during the teaching and learning of Malay language. Accordingly, the researcher has provided the following questions to the students:

- a. Do you like being praised? Why?
- b. Do you like being rewarded? Why?
- c. Do you like to do the exercises given by the teacher? Why?

Based on the spontaneous interviews conducted, it was found that all 25 pupils love the praises by teachers when they answered questions or completed the assignment. The praise given by the teachers verbally are *good*, *very good*, *smart* and *wise*. All students are also fond of being given rewards, for example, teachers give five stars for outstanding achievements. Students are also delighted to be rewarded with gifts such as stationery, sweets and bookmarks. A total of 20 out of 25 students answered that they like to complete the exercises given by teachers because they will receive praise and gifts and encouragement from teachers. While 5 students answered that they do not like if the teacher gives a lot of exercises but they enjoy receiving praises and gifts.

6. Discussion

The Stimulus-Response Theory has a significant strength, which helps teachers observe the behaviour of pupils and in controlling the behaviour. Teachers need to provide stimulus such as giving word of praise or reward to students especially those who are less interested in learning. Through the stimulus given, the teacher will be able to observe pupils' behaviour before and after the stimulus. Then the teacher indirectly controls the behavior of the pupils in the next class. The process of acquiring and mastering a language is a learning process that requires repeated training. Hence, the teaching of language that is done more systematically will result in the improvement of pupils' memory of a particular knowledge or topic.

Stimulus-Response Theory also emphasizes on the reinforcement aspect, that students will be able to learn a language with constant rewards and reinforcement. Teachers also would not need to spend a lot of time explaining the topics to students. Positive reinforcement provided by teachers can encourage students to produce high quality work. The reinforcement given must also be clear and systematic. Only specific behaviors need to be reinforced and teachers must be sincere when reinforcing. Behaviorism theory prioritizes the environment of the students in helping the teaching and learning process. This environment includes the conduct of teachers, pupils' friends and the atmosphere in the classroom. This theory seems appropriate to be used to train or educate children who still need help from adults around them, in this case, the Year 1 students.

7. Conclusion

The three applications of Stimulus-Response Theory in teaching and learning, i.e. positive reinforcement, reward and repetition will affect students' behaviour in a good or bad way. Accordingly, students' behaviour can be observed, controlled and predicted by teachers. Thus, Stimulus-Response Theory focuses on the behavior that is seen, measured and assessed. These behaviors can be shaped through the environment and reinforcement given. Through this theory, teachers can apply it to pupils at school and in this way pupils will always be positively reinforced through the process of teaching and learning in the classroom. In addition, teachers can also track every behaviour of students through their behaviour towards the environment, their friends, teachers and others. Stimulus-Response Theory theory can also establish a two-way relationship between teachers and students and vice versa during the teaching and learning process.

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