



Faculty of Cognitive Sciences and Human Development

**THE EFFECTS OF MULTIMEDIA PRESENTATION ON MALAY  
IDIOM LEARNING**

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(Cognitive Science)**

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**THE EFFECTS OF MULTIMEDIA PRESENTATION ON MALAY IDIOM  
LEARNING**

TUN ARISSA BINTI TUN MOHAMED KAMARUL

This project is submitted in partial fulfilment of the requirements for a  
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(2020)

The project entitled ‘The Effects of Multimedia Presentation on Malay Language Idiom Learning’ was prepared by Tun Arissa Binti Tun Mohamed Kamarul and submitted to the Faculty of Cognitive Sciences and Human Development in partial fulfilment of the requirements for a Bachelor of Science with Honours (Cognitive Science).

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**A**

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## ABSTRACT

The present study determined the effects of multimedia presentation on Malay Language idiom learning. For this experiment, 30 undergraduate students with access to internet were asked to participate in this experiment by learning and understanding a series of Malay Language idioms through one of the two types of multimedia presentation, image and narration (IN) or image, narration and on-screen text (INT). From the result of the independent t-test displayed that there is no significant difference in terms of performance between the two groups and that both group's participants managed to perform equivalently. Nonetheless, participants from the image, narration, and on-screen text group (INT) performed slightly better according to the slight difference in mean reading than the image and narration group (IN), indicating the additional element of on-screen text in INT aid in learning and understanding on Malay Language Idioms for the undergraduate students. The present study proved that for either image and narration (IN) or image, narration and on-screen text (INT), it is in the will power of the learners to have a better understanding towards Malay idioms when they best match the learning styles of the learners themselves.

*Keywords:* Multimedia presentation, Malay Language Idiom learning, image, narration, on-screen text

## **Chapter One**

### **Introduction**

#### **1.1 Background of Study**

All languages are rich with idioms and they each carry different meaning in different context of its own language. Idiom is defined as a group of words that are in a fixed order which have certain meaning that conveys differently from the original of each word (Cambridge Dictionary, 2019). Idioms in its glory plays great influence from teaching and learning of a foreign language to giving students a better vocabulary and improve communication skills in a daily context (De Caro, 2009). It helps students to be better speakers and the learning process with idioms can help students be competitive in being able to comprehend and execute its usage for studies (De Caro, 2009).

Malay language idioms were made based on the people's experience to expose the value and beliefs of the Malays, including their characteristics (Azma & Fuad, 2011). It exudes the culture of an individual and their train of thoughts. In a way, as much as Malay idioms are widely used in advertisements, its existence is not recognized by others and are not used in conversations anymore (Ishak & Mansor, 2011).

Multimedia learning is known as information acquisition where messages are the information delivery system that aids to making sense, that makes learners have a better understanding of the explanations in a form of words and pictures and animations instead of words alone (E. Mayer, 2002). The author also mentioned how meaningful learning can be achieved especially when the multimedia messages are designed based on how the workings of the mind are correlated. A research done by Mayer in 2002 gave us insight on how his participants (students) were able to learn more and deeply from the multimedia presentation

given in terms of animation and narration instead of just narration. During one extracts information when studying, when words are presented as it is, the learner would build a mental representation verbally based on the subject but with lesser visual mental representation to mentally connect it to the verbal subject but when both pictures and words were presented, the participants were able to connect the representation of both visual and verbal and that is what meaningful learning is based on, being able to make use all materials in learning in order to have a better understanding in things (Mayer & Moreno, 2002). The benefits of multimedia learning are vast as it can be seen that multimedia pivot on students and adults alike being natives to the digital world and that their everyday lives are connected to technology (Yap, 2016). In another level of authority, teachers and educators are also drawn to implementing multimedia learning because it is both relatively facile to implement it in class and there is a wealth of studies lauding its effectiveness on learning (Schrader, 2016)

In the present studies, it has come to an understanding that multimedia learning played a huge part in ensuring students' comprehension in multiple foreign languages but only very few investigations were made on the advantageous of Malay language in respect to its idioms. One of the studies done was regarding the fruitfulness of multimedia learning acting on Mandarin language by Williams in 2014. The result of the study points to being supportive of the generative cognitive theory in multimedia learning (Williams, 2014). In his research, he made a hypothesis on how materials of multimedia have an effect on the acquisition of the second language, Mandarin. The results agreed with his hypothesis of when learners were given text-on-video of the Mandarin wordings has more elevated scores as oppose to learners who were presented with text-on-picture of the mandaring words, and fruitful from the results, it can be said that multimedia materials really does show its

usefulness in furnishing meaningful context in order to aid the learners' memories (Williams, 2014).

Another research was also done on the foreign language Turkish by Samur in 2012 stating that when participants are presented with the addition of text in the presentation, topped with animation/pictures and narration improves learning as narrated text on-screen is not considered as redundancy when it comes to foreign language learning as oppose to how it should be decreased in order to minimize cognitive workload in other learning syllabus (Samur, 2012). Other findings discovered by Zulkipli and Rahman back in 2014 in French language learning had results consistent with Samur's (2012). It is agreed that when it comes to foreign language learning for having additional multimedia elements like animation, narration and on-screen text, when congruous with the hypothesis of information delivery by adding on-screen text to narrated animation, ANT group would have the upper hand in being able to absorb more information as the redundancy of the information are in fact exposing them in a variation of techniques (Zulkipli & Rahman, 2014). It is fascinating to observe the findings of these research (Samur, 2012; Williams, 2014; Zulkipli & Rahman, 2014) all showed a contradicting result when compared to the redundancy principle which states learners can learn better with the presence of narration and animation rather than animation, narration and text onscreen due to the fact that theoretically, learners receiving the animation and narration (AN) test would perform better on retention test versus animation, narration and onscreen-text (ANT) test learners (Mayer & Johnson, 2008). Redundancy is in effect when supplementary information are presented to learners which results in a depletion of learning outcomes compared to when presented with lesser information (Wallon, 2014).

The issue as to why this project turned up was because of how idioms are not taken into serious account nowadays despite its advantages in communication and how it can help students' learning process by challenging them just because it is no longer apt and bombastic

to be carried out for educational goals (De Caro, 2009). De Caro also mentioned that without idioms, any language would lose its variation of humor in writing and speech because idioms gets you thinking, to see whether an individual is able to comprehend is someone is saying anything cynical or maybe even filtering their words in order to be polite (2009).

With that being said, idioms in Malay language tend to be more complex than other languages, as the Malay language idioms are formed around the elements of culture and its entity of Malays (Azma & Fuad, 2011). Malay proverbs spices up a higher order thinking skill and creativity of an individual in forming the Malay idioms dubbed from its environment and surroundings and shows a sharp connection between thoughts of the person and language being used; in this context, *Bahasa Melayu* (Azma & Fuad, 2011).

## **1.2 Problem Statement**

Malay idioms or proverbs should be imbedded into the lives of youngsters as it helps develop their character and morals in life, not to mention how they view the world as a whole and how they communicate, because the Malay proverbs are a form of “Khazanah Negara” that was made by elders, being passed down from generations to generations before it ceased to exist (Adhani, 2016).

Society of the 21st century are not giving much attention to Malay idioms despite its welfare in communication due to the inability to grasp on the context as a whole even from a young age (Mohd Ridzuan, 2018). All researches regarding Malay idioms (Adhani, 2016; Azma & Fuad, 2011; Mohd Ridzuan, 2018) all agree that students and society in general have truly lost interest in the language’s idioms as they do not find it interesting to be used frequently. To top that, the execution of idioms in examinations are not as solid as it was before and that students are only learning it for the sake of exams, and not trying to understand it by heart. Mohd Ridzuan (2018) opinionated that if we do not save the culture

and thoughts of the old in Malay proverbs and idioms, it is very likely for young Malays to lose their identity in the world, as *Bahasa Melayu* is a national language of this country when other countries are chasing in improving their English language and Mandarin language.

Zulkipli (2014) and Samur (2012) both dabbed into foreign language, French and Turkish respectively has proven that when presenting multimedia, a higher increase in retention performance rose due to additional elements and proved not redundant information for learning of language. Past studies on English idioms shown that using multimedia can enhance learning and promote deeper learning stating that adding onscreen text allow learners the opportunity to understand knowledge materials (Rebi, 2015).

Taken account into all the problem statements above, it is worthy to examine if the benefits of multimedia presentation can be generalized to learning Malay idioms.

### **1.3 Objective**

The objective of this research would be to investigate the effect of different types of multimedia presentations as image, narration versus image, narration, and on-screen text (IN vs INT) on Malay idiom learning.

### **1.4 Research Question**

The research question of this study is as follows:

- 1) What is the effect of having different types of multimedia presentations of image, narration versus image, narration, and onscreen text on Malay language idioms learning?

### **1.5 Hypothesis of Research**

H<sub>1</sub>: There are no significant differences in Malay language idiom learning between image and narration group (IN) and image, narration, and text-onscreen group (INT) condition.

## 1.6 Conceptual Framework

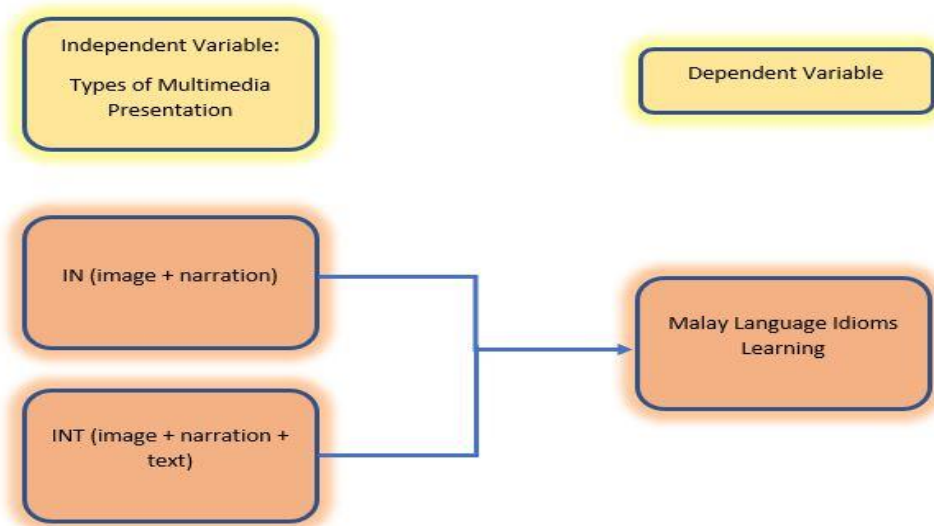


Figure 1: Conceptual framework of research

## 1.7 Definition of Term

### Multimedia Presentation

Conceptual definition: The combination of visually functional pictures, music, videos, words, and sounds presented adapted on hardware and software technology known as computer (Cambridge Dictionary, 2019).

Operational Definition: In this study, two types of multimedia presentation were used, image and narration (IN) and image, narration, and text onscreen (INT)

### Malay Idioms

Conceptual definition: Idioms are a group of words in a sentence fixed in an order which holds certain meaning conveyed differently from its original word (Cambridge Dictionary, 2019).

Operational definition: The present study used Malay idioms concocted from the social context of everyday lives of the Malay society.

## **Chapter Two**

### **Literature Review**

## **2.1 Benefits of Multimedia in Various Context of Language**

Actual evidence done for the application of multimedia learning on foreign language (French) was done by Zulkipli and Rahman (2014) that states how multimedia learning provided evidence of increment in retention performance and this is due to the auxiliary elements of multimedia that aided in improving the comprehension of the French vocabulary. Another study done by Samur in 2012 on Turkish language highlighted that conferring multimedia instructions in learning a language with animation, narration and on-screen text (ANT) does ameliorate learning, and to oppose the redundancy principle, whereby narrated text onscreen for learners to see is not redundant information when it comes to learning a language.

It was firstly popularized by Richard E. Mayer dating back in 2002 which states that the instance of multimedia works in the presupposition that a learner can have a better understanding and comprehension towards an explanation when learners are presented with pictures and words onscreen rather than only presented with words alone and this is due to the fact that visual presentation works well with human memory (Mayer, 2002). Words can be presented through speech and hearing from when they say it aloud or listening from a medium while words can also be incorporated in printing form, where students can read. Pictures on the other hand are graphics that are static and represents a form of illustration and animation videos are a series of pictures movies in clips of frames (Mayer, Barbara, & Chandler, 2001). Mayer later introduced the Cognitive Theory of Multimedia Learning in 2005 which will be further explained in the literature review.

The reign of multimedia learning and multimedia presentation were supported by multiple major researcher and authors. Almara, Amer, and Sulieman (2016) stated that the technology of multimedia makes learning more interactive and dynamic, which can last

longer in history to be passed down to mankind and is also applicable to the humans in the world. Multimedia learning also foster deeper learning to individuals and provides a positive impression due to the natural creativities it took to create it (Yap, 2016). Multimedia, in correlations to creativity can help individuals be more artistic in the way they express what they learn and what they are about to teach. No one person has the same idea or cognition as the other, so to see the functioning of creativity of each individual to be expressed and displayed in terms on multimedia can actually help people have a better understanding of what they are trying to envision when there is an actual animated representation of it through multimedia learning (Schrader, 2016).

In the case of this experiment, animation will not be used, but instead converted to images. This states as a difference between this experiment between past studies because creating an animation for each idiom was easily handled using images instead of moving animations as each idiom are uniquely presented and are complex to create animations from scratch.

## **2.2 Idioms of Malay Language**

Implicit and explicit Malay idioms or proverbs are portrayed from Malay thoughts and this has been going on for when Malay language was truly introduced into society and was used officially back in the days and Malay proverbs highlight the moral values, social customs, beliefs and philosophy of the Malays (Azma & Fuad, 2011). Idioms from the semantics of cognitive is defined as using mental process due to the “scene” of a certain event in the mind that shows an implicit fact in the formation of sentence (Ho-Abdullah, 2011).

According to Adhani (2016), Malay idioms are a heritage made to be inherited to the younger generations that compromises of values and Malay customs. Malay proverbs acts as

an important element for exhibiting the train of thoughts and beliefs of Malays during interaction (Hassan & Jaafar, 2016).

The usage of Malay proverbs in this era are a concern to Mohd Ridzuan (2018). For five years working as a teacher, it can be seen that the usage of Malay idioms are getting thinner by the minute and students are suffering from insufficient comprehension of the idioms they learn (Mohd Ridzuan, 2018). The author also mentioned that despite the NGO's plan to activate multiple programs to promote and restore the continuation of this heritage, for the author, it is imperative to start at a young age in school. The importance of idioms and its usage needs to be guarded as how *syair*, riddles, traditional instruments of the Malay customs are guarded throughout the century before we lose our identity as Malays (Mohd Ridzuan, 2018).

### **2.3 Cognitive Theory of Multimedia Learning**

The cognitive theory of multimedia learning is a rudimentary hypothesis on how multimedia messages are contrived to how human minds work to lead towards a meaningful learning (Mayer, 2005). CTML has three major branch of principle of learning in cognitive science and they are dual channels, limited capacity and active processing (Mayer, 2005). The rationale behind CTML is that people are able to learn deeply through ANT than AN and this is asserted with the multimedia principle for when it's been years that learning is incorporated with only wording as a medium of teach but with today's technology, physical visual representation are available to aid in the understanding of learners (Sorden, 2012).

The test used to measure learning is retention, which is remembering an information that was presented prior and transfer the information stored to be used for solving a new problem (Mayer, 2005). The main purpose of uncovering the theory is to view how the

cognitive process of how humans construct outcomes of meaningful learning from the multimedia presentation they received (Mayer, 2005; Sorden, 2012).

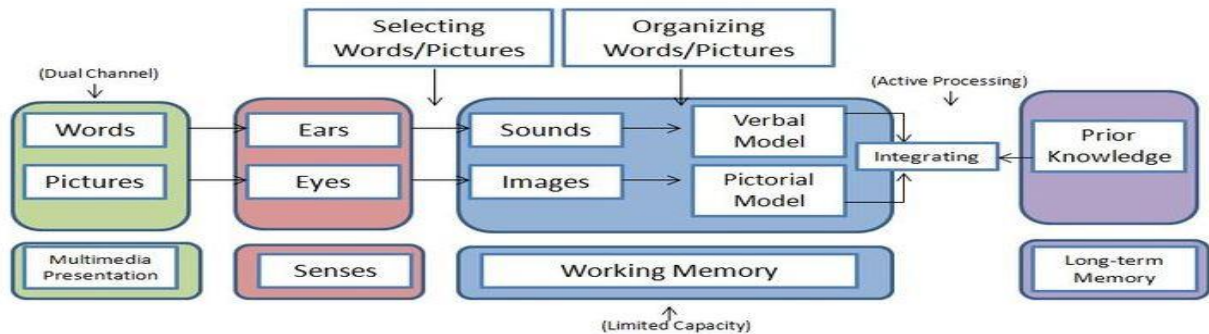


Figure 2: Cognitive Theory of Multimedia as a whole

## 2.4 Dual Channel Assumptions

Dual channel assumption is an underlying insight that every human process information separately for both verbal and visual representation respectfully (Mayer, 2005). When the eyes capture information presented, for example, an illustration, video, animation, humans will process those information through the visual channel as separate when the ears receive information through audio and starts processing it through auditory channel (Mayer, 2005). The capacity to process both visual and verbal channels of information are severely limited. In hindsight, the presentation of additional elements that are too much to move towards verbal or visual working may lead to an overload, where certain information from the presented data are not processed at all in the human mind (Mayer & Moreno, 2002). In order for learners to actually achieve meaningful learning, they must have an active selection of information that are relevant, to organize it in a systematic representation and then amalgamate it with other knowledge prior in the long term memory (LTM) (Mayer & Moreno, 2002).

## **2.5 Limited Capacity Assumption**

Mayer (2005) presupposed that humans can process a limited amount of information in each channel at a time. So, when an illustration or animation is granted, the learner can manage to hold some of the images in the working memory at a time, only reflecting portions of the granted materials rather than the precise copy of the granted material (Mayer, 2005). The concept of this limited capacity within consciousness had a long history in the field of Psychology, some being from Baddeley from 1986 and was later brought forward in 1999 (Sorden, 2012).

With the assumption of how limited our processing capacity is, it is vital to find out as to the amount of information can be processed depending on each channel. The archetypal way to acknowledge one's cognitive capacity was by doing a memory span test (Sorden, 2012). As an example of a memory span test, provide a simple string of digit and keep adding one more random digit after each pre-test and if the participant can recite the number in order without making an error, the longest run is the score of your memory span (Mayer, 2002). Despite the individual difference in scores, everyone, on an average has a memory span that is quite small, roughly five to seven chunks (Sorden, 2012).

## **2.6 Active Processing Assumption**

Active learning comes in when the learner applies processes of cognition towards the incoming material in order to help the learner to make sense of that said material and processes such as paying attention and organizing information plays a role in the cognitive process (Mayer, 2002). This active process will be the result of constructing reasonable mental representation, there for active learning can be viewed as a model building process and a mental model is the key part to the materials presented and their connection (Mayer, 2002).

There are three major process vital for active learning and they are:

- 1) Relevant material selection
- 2) Organizing the selected material
- 3) Integrating the materials selected with real world, existing knowledge.

And these are cited by Mayer in 2005. For the first process, selection of relevant material, it transpires when a learner pays attention to the images and words presented and this procedure involves guiding the materials from external sources to the working memory in the cognitive system (Mayer, 2005).

Next, the second process is organizing materials selected necessitate building a structural relation between the elements present in the material and this process involves its working at the cognitive system, within its working memory (Mayer, 2005).

The final process is integrating the selected materials to existing knowledge by building connections among incoming information to the already existing knowledge from our long term memory to its relevant portions (Sorden, 2012). This required an individual to activate the knowledge from the long-term memory and bringing it forward to the working memory.

## **2.7 Redundancy Principle**

Redundancy principle is about how learning would be diminished when the component in a presentation is redundant by which the same information is brought forward in a variety of ways or when inessentially elaborated; meaning that more adding on-screen text that duplicates the words priorly spoken in narration (as an example of ANT) will result in poor learning (Samur, 2012). Au contraire, the results from Samur's (2012) research stated that if the main idea of a redundancy effect is to reduce its redundant elements in materials in order to reduce the cognitive load of learners; however, if the subject at hand was the topic of