

The Effectiveness Use of Mind Maps in Learning 4th years History Textbooks

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ABSTRACT

The Mind Map is an expression of radiant Thinking, the associative thought processes that proceed from or connect to a central point, and is therefore a natural function of the human mind. It is a powerful graphic technique that can be applied to improve learning and clearer thinking (Buzan, T. & Buzan, 1993). Mind map is an effective and meaningful teaching and learning tool. The mind map attracts and enhances students' understanding of concepts, information, facts and others. This study aims to examine the effects of using mind map on History subjects for 4th grade students at Sekolah Kebangsaan Seafield, Subang Jaya, Selangor. Mind maps can be used as self-learning methods that facilitate understanding of difficult concepts. This study was conducted with the aim of determining the effectiveness of teaching methods based on the use of Visual Mind Map in teaching and learning history of the 4th year. The teaching method used is believed to help students to understand the subject in detail. With that we create a visual mind map book to complement the understanding of textbooks and have been distributed to students in primary schools. A total of 20 students from primary school in Subang Jaya, Selangor were taken as a sample of the study. Students will fill in the form and answer questions designed to assess the effectiveness of visual mind map books. This study will also examine the effectiveness of the visual minded map for learning experiences. At the end of the study, students can not only enhance the understanding of the topics taught, but also to use the newly acquired knowledge of cooperative learning to solve problems with greater confidence. Overall, visual mind map contributes to improving student achievement in history subjects.

Keywords: Visual Mind Maps, History Subject, Primary School Students, History textbook

INTRODUCTION

The National Philosophical Philosophy, which was set up in 1979, outlined a holistic and integrated individual excellence to produce intellectually, spiritually, emotionally and physically balanced individuals (JERI). This human balance began to be cultivated since schooling again. Therefore, the Integrated High School Curriculum (KBSM) and the Primary School Integrated Curriculum (KBSR) have been enacted. The Secondary School Integrated Curriculum Revision in History is aimed at strengthening the Education Act 1996 and fulfilling the spirit of the National Education Philosophy (FPK) to provide Malaysians with the challenge of education in the 21st century (Ahmad, A.Rahman, S.H.A. & Abdullah 2009). The Curriculum Development Center (KDP) has also revised the curriculum that was adopted until 2003 to ensure the content of History subjects in line with the country's future development.

One of the six major areas of national success (NKRA) was announced by YAB Prime Minister, Dato 'Seri Mohd. Najib bin Tun Abdul Razak is expanding access to quality and affordable education (Zakuan, N. 2011). The NKRA is one of the core of the Government Transformation Program (GTP) that has an impact to achieve Vision 2020. The Ministry of Education Malaysia is aiming for academic and student excellence in line with the Vision 2020's vision. Vision 2020 introduced by Tun Dr. Mahathir Mohamed in 1991 emphasized the existence of a strong Malaysian Nation (Arshad, A.R. 2004). The existence of this nation of nations must be implemented through various channels and among them is through an education system that serves as a major vehicle for the formation of community solidarity. Hence, history education in schools plays a crucial role as a mechanism for achieving the goal of Vision 2020. Without the knowledge of the history of nations and nations, one will lose (Razak, M.J. 2009).

PROBLEM STATEMENT

Mind map is a method of remembering and recording effective notes to students. Mind map is ideal used to information so it is easier for students to remember. Note that the form of mind map is easy to describe and understand over long essays. Mind maps are the ideal teaching tools for classroom handouts, as the inherent color, images, and visually appealing layout of the mind map engages students instantly. Mind map provide subject overviews succinctly, making even the most complex topic easy to understanding and interesting.

Long textual reading of textbooks will cause students to be depressed and subsequently indulge in the dislike and bored of historical subjects. Students lack of interesting in reading, difficulty in memorizing facts, no interest in subject, their inability to comprehend lessons and the ineffective learning styles. This was because textbooks were packed with factual information. The visual features of the visual mind map will enhance the creativity of the students through the use of visuals, colors, shapes and symbols to facilitate the fact of being easily understood and concise.

The situation become more problematic when history subject teachers do not take a more creative mindset to stimulate students interest in historical learning (zahara & Nurliah, 2009). Teachers too burdensome exam orientation, form learning activities, teaching traditional, over shipped to a textbook, it is difficult to determine the objectives and teaching skills based on it lack of excessive use of textbooks will make teaching is stereotaip, less creative and imaginative power.

SIGNIFICANCE OF THE STUDY

The results of this study are important to teachers and students towards effective and meaningful teaching and learning strategies. Teachers can use the results obtained in evaluating the best teaching methods to be more interesting and orderly using mind maps to diversity teaching aids in schools.

Students who learn to use this mind map method will be easy to remember the facts because the visual mind map are produced using the characteristic and attractive features. Easy to remember and not bored.

The use of a visual mind map can ensure that the learned knowledge is memorable and not dull. In addition, the results of this study can add

a set of knowledge on visual mind maps in education, especially History subjects. Additionally, this study also enhances the dignity of the teaching profession.

Objectives

In answering the questions raised, a few objectives are formed to reach the research objective. Therefore the research intended to:

- To find out visual images, colors, appropriate forms for visual mind map use in the history of textbook exploration of the 4th years.
- To help teachers prepare and deliver lessons, plan their curriculum and teaching and to ascertain teachers perceptions of mind map visual as an instructional tool.
- To increase the percentage of the result achievement of history subjects and changing the students perceptions of history subject that are always considered difficult and boring and to help students remember historical facts more easily and help students brainstorm any topic and think creatively.

Research Question

- What type of layout, images, colors, form an able to produce suitable visual mind map books?
- How will teachers perceive mind map visual as an instructional technique?
- How can mind map visual be used to assist students in learning history and benefit students 4th years learning subjects?

LITERATURE REVIEW

According Trochim (1989) mentions a mind map is a process that can help develop ideas on different topics. Mind map is one of the most effective methods of learning that uses brainstorming from a knowledge concept to a related branch (Abdosamad, M.I.I. 2007). The mind map is a construction made on a piece of paper, an important idea is centered as the main center and other related ideas are developed beyond the main idea using small centers, lines, blocks, geometry, colors and image. In addition, mind maps are graphical arrangements that contain certain information, written in brief but compact. In this research, the mind map used refers to the order of information for 4th years titles. The order of information is a sub-topic that is expanded to several branches according to the content in concise terms. Visualizing knowledge is an approach where a subject with non-visual content is represented by graphics,

diagrams or other readable/recognizable forms (Kosara, R 2011). These visuals can be illustrated either two dimensionally (2D) or three dimensionally (3D). One of the popular techniques that can be used to visualize knowledge is by adopting a concept map approach. Visual mind map is an easily understood tool (Canas, A.J. 2005). The concept visual mind map has become a useful instrument for teachers to aid student in understanding various subjects as it combines scientific rigidity with simplicity and flexibility. It also assists those who intend to generate, transmit, store and spread information and knowledge (Espinosa, M.L. 2007).

According Alhberg (2008) mentioned that teachers can monitor and promote students' learning and thinking through the use of concept mind map. Concept maps could be described as a "visual way of representing knowledge in which concepts, relationships and propositions exist" (Ur, P. 2006). They are graphical tools used for organizing and representing knowledge (Novak, J.D., & Canas, A.J. 2008). Mind Map was first explored by oseph Novak and his colleagues in the 1970s, as a graphic means of expressing scientific concepts to children. Since then, concept maps have been used in a wide variety of settings and contexts. Through concept mapping learners are able to externalize their existing knowledge and combine it with new knowledge rearranging and internalizing both the old and new knowledge in a graphic form (Wu, P.H., Hwang, G.J. 2012). The primary features of a concept map are its hierarchical structure which identifies specific concepts, usually enclosed in circles or boxes, and the connecting lines between these concepts which indicate how knowledge of a specific concept or domain is linked to the other concepts or domains. The most general and inclusive concepts are placed at the top of map, while the secondary concepts are placed below with the cross linkages and relationships between concepts indicated by lines (Wang 2010).

MIND MAP LEARNING THEORY

Mind-based learning theory is a theory based on the structure and function of the human brain or mind. Every human being is born with a brain that functions as a very powerful and quite complex processor and has enormous potential to deal with diverse thought processes. According Said, M.M. (2004) the brain contains more than one trillion cells, of which 100 billion

of them are composed of neuron cells - brain cells. This neuron serves to transmit information and feedback in the form of a person's thoughts and actions.

According Restak, R. (1994) the human brain can store more information from the entire library around the world. Buzan, T. (2003) states that every time there are about 100,000 to one million chemical activity occurring in the human brain. Capacity of the human brain can reach 250 kilometers per hour when transmitting information from one neuron to one neuron.

Generally the human left brain is more focused on mental activities involving logic, sorting, words, numbers, analyzes, remembering names, writing, viewing sections, reasoning and abstract. While human right brain is more focused on mental activity involving rhythm, imagination, chestnutness, memory, overall, color, generating ideas, music, concrete and irrational (Said, M.M. (2004). In short, the left brain is doing objective and academic learning, while the right brain is also for holistic, subjective, aesthetic, creative and in the form of instinct (De Porter, B. and Hernacki, M. 1992).

Although a person's tendency is only concentrated in the left or right brain alone, both hemispheres of the brain are directly involved in the person's thinking pattern (Pritchard 2009). The combination of right brain function and left brain will produce creative and thoughtful thinking. According to Buzan (2003) the mind map uses the fullest abilities of the brain. This brain function indirectly also affects the way a person learns.

RESEARCH METHODOLOGY

This research on this study uses an exploratory study, research design involving two phases. The first phase involves survey research using a set of questionnaires that contains three sections, namely student demographics, student perceptions on mind maps and their use in the study of History subjects. A total of 20, 4th year students from Sekolah Kebangsaan Seafield, Subang Jaya, Selangor were selected to answer the questionnaire. Interviews with teachers and five students were conducted in the second stage. The design of this study is a study of action to study the use of mind map to improve student achievement in history subject using quantitative and qualitative methods to obtain study data. According to McNiff (1988), action research is an approach to improving or improving the quality of education through changes that encourage teachers to become

more aware of their own practices, being critical of these practices and are willing to change the practice. This study uses an action research design using quantitative and qualitative method, this study will use various forms of instruments that can support this study. This research instrument consists of questionnaires, teaching preparations, interviews and observation forms.

PARTICIPATION OF SAMPLING

The sample consisted of 20 students from, 4th year students at Sekolah Kebangsaan Seafield, Subang Jaya, Selangor. Class 4B was selected as a sample of 20 students, 12 girls and 8 male students. The sample of the study was selected purposively. According to Zaenab Hanim (2004) action research does not use population words because action research does not require randomized sample populations. For a sample of teachers, only one teacher was chosen by the researcher because the teacher had the experience of teaching history over 8 years and many attended courses related to teaching history.

QUALITATIVE

The data will be collected based from primary school history textbook years 4. Textbook content, identify the advantages and disadvantages of the history textbook years 4. Identify of elements of visual, content, design, illustrations, photo and maps history textbook years 4. Pingel (1999) describes qualitative methods in greater detail. With qualitative methods of textbook analysis depth presides over breadth. As such, the results tend to be richer with regard to understanding the way that information is presented in a text yet more difficult from which to make generalizations. Pingel then goes on to list different qualitative approaches to textbook analysis. First he describes hermeneutic analysis, used to unearth hidden meanings and messages in textbooks. He then briefly outlines linguistic analysis, involving the examination of words and terminology with controversial meanings and cross-cultural analysis, where all sides in a bilateral or multilateral study examine each other's textbooks to identify bias. Finally, he discusses discourse analysis, where the researcher deconstructs textbook content to identify what information, groups and events the author values, takes for granted, courage or regards as unimportant. (Pingel 1999).

VISUAL RESEARCH

Visual content analysis is one of the most widely used qualitative techniques in part due to

its transferability to and affinity with quantitative methods. Visual content analysis is one of the most widely used qualitative techniques in part due to its transferability to and affinity with quantitative methods. Krippendorff (2013) describes contents analysis as 'a symbolic reading of a body of text, images, and symbolic matter.

QUANTITATIVE

Quantitative method as a guideline in collecting data from result from the qualitative method and have been used when is surveys and the instrument is test. This study uses quantitative approaches through survey method using questionnaire and interview. 20 students participated in a 10-15 minute to answer questions and 5 student structured interview that explored their individual understanding of visual mind map as learning tool. Interview questions used also to explore teachers' views that uses of visual mind map in classroom practice.

OPEN-ENDED QUESTIONNAIRE

Students were asked to respond, in writing, to two open-ended questions concerning their perceptions of visual mind map. These questions were also employed as part of the interview schedule of questions.

PRELIMINARY STUDY (PILOT TEST)

Pilot testing means a small-scale trial assessment in order to evaluate the time, cost and familiarization of terms to improve upon the design for the real questionnaire (Sekaran & Bougie 2007).

Pre-Test

The construction for the questions in pre-test is done after the result of pilot test. It is also used to justify the desired sample size (Malhotra, 2010). It is not compulsory to conduct a pre- test for a specific research, however as to have a higher degree of validation, it is recommended.

Post-Test

Research instrument that has a set of questions which leads to the objective of the research (Sekaran & Bougie 2007). The purpose is to gather information from respondent in sequence data acquired from pilot test and a pre-test.

LOCATION OF STUDY

The location that were be taking place for this study in class of 4th years at Sekolah Kebangsaan Seafield, Subang Jaya, Selangor.

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Sample of Size

Sampling of this research will be taking into minimum of 20 respondent. The larger the sample of size the more accurate the research it is because the result can be compared easily.

DATA AND EVALUATION

Pilot Test Result

A pilot test was conducted through analysis from 4th year history textbooks.

Survey (Pre Test)

Survey Questionnaire Overview

A survey was conducted through consisting of 20 participants from 4th years students at Sekolah Kebangsaan Seafeld, Subang Jaya, Selangor. The data collected will determine

from of findings for the next chapter is best suited to conduct this study.

An Outcomes of Survey Pre Test

Demographic

Out of 20 participants, 8 male students and 12 female students were involved in the survey.

Table 5.1.1: Shows the gender

Gender	(Total Person)
Male	8
Female	12

All 20 students are age 10 years old. Where historical learning was introduced at the age of 10 years old, the 4th year in primary school.

Table 5.1.2: Shows the Age

Age	(Total Person)
10	20

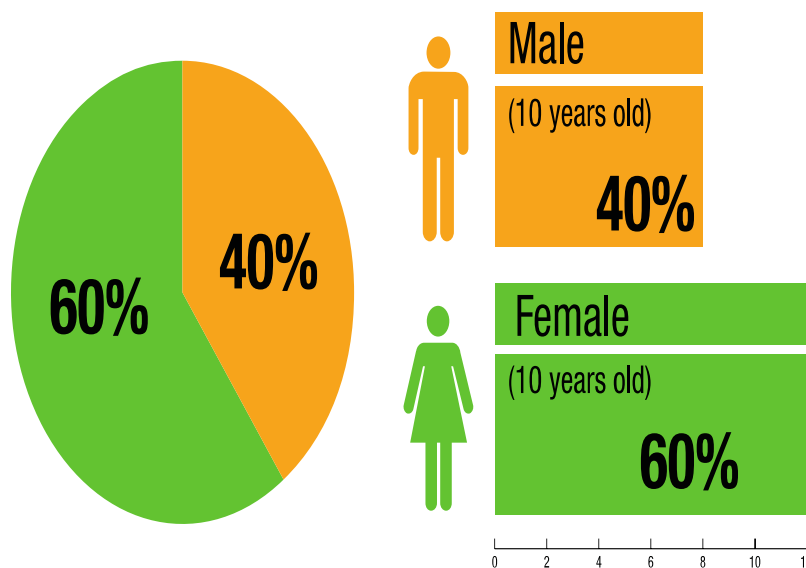


Chart 5.1: Shows the percentage of participating students

Table 5.1.1, table 5.1.2 and chart 5.1 which, present age and gender student, are compounded together. This is because these findings are the sake of getting to know the students who took part in survey, something along the lines of simple briefing hitting more focused questions.

STUDENTS PERCEPTION ON MIND MAPS APPLICATION

Questions for viewing student's perceptions on the use of mind map in history lessons.

Question 1: In your opinion is this method can help you to understand your lessons in history?

Table 5.1.3

Agree	Disagree	Total (Students)
19	1	20

Question 2: In your opinion, whether your achievement will increase if this visual mind map method is used in historical subjects?

Table 5.1.4

Agree	Disagree	Total (Students)
19	1	20

Table 5.1.3 and table 5.1.4 show that 19 students out of 20 students participating in open ended questions, agreed with the visual mind map method can help to understand and improve achievement in historical learning.

After the student sees the visual mind map book and learns the contents of the book. Students give an opinion on achievement. Chart 5.2 shows students opinions on visual mind maps.

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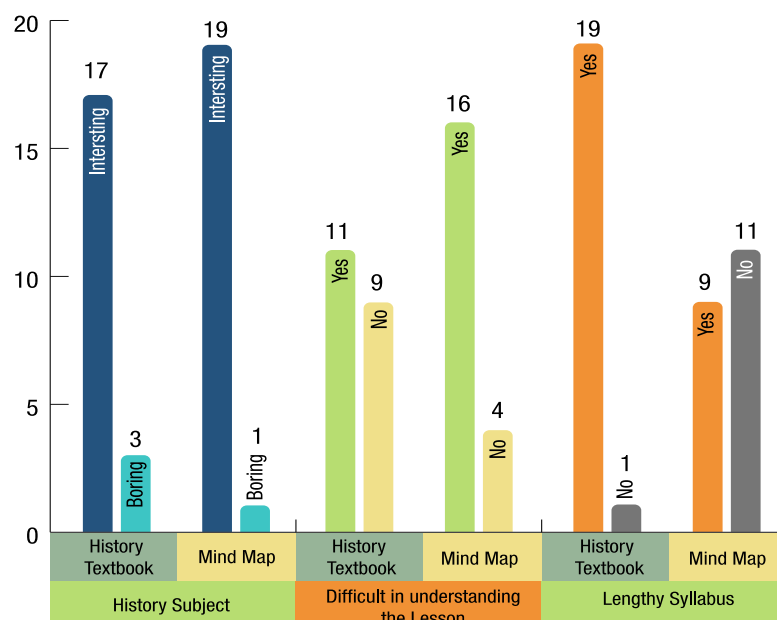


Chart 5.2: Shows students opinions on visual mind maps, learning historical subject problems use history Textbook and use Visual Mind Map

Component: Textbook History

Table 5.1.5 Textbook History

Items	Options	Students	Percentage
History Subject	Interesting	17	85%
	Boring	3	15%
Difficult in understanding the lesson	Yes	11	55%
	No	9	45%
Lengthy Syllabus	Yes	19	95%
	No	1	5%

From the table 5.1.5, it shows 95% students find historical subject in textbook history have lengthy syllabus.

Component: Visual Mind Map

Table 5.1.6 Visual mind map

Items	Options	Students	Percentage
History Subject	Interesting	19	95%
	Boring	1	5%
Difficult in understanding the lesson	Yes	16	80%
	No	4	20%
Lengthy Syllabus	Yes	9	45%
	No	11	55%

From the table 5.1.6, it shows 95% students find learn history subject in visual mind map very interesting.

STUDENTS PREFERENCE

Table 5.1.7 Students preference towards the use of Visual Mind Map in history learning

		Yes	No
1.	I like to learn history through mind map	17	3
2.	Mind map is difficult for me to learn history lessons	2	18
3.	I like to practice using mind maps	17	3
4.	A mind map makes me love the subjects of history	17	3
5.	Each student must use a mind map to make a study review	14	6

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6.	I like to use mind maps to make lessons review	18	2
7.	I draw a mind map before answering the history exam	7	13
8.	Mind map helps me to remember what teachers are teaching	17	3
9.	Mind maps are less useful for the learning process	1	19
10.	Learning based on simple and fun visual mind map	17	3
11.	I can improve of concepts and facts when using mind maps	17	3
12.	Teacher teaching using mind map is more effective	17	3
13.	Mind map helps me to remember historical facts	18	2
14.	I can easily remember the notes teachers teach when using the mind map	18	2
15.	The mind map makes me fond of history subjects	17	3
16.	The mind map helps me to revise it	16	4

Overall table 5.1.7 shows that the majority of students like to use Visual Mind Maps in reviewing historical subjects.

FUTURE SUGGESTION FROM STUDENTS

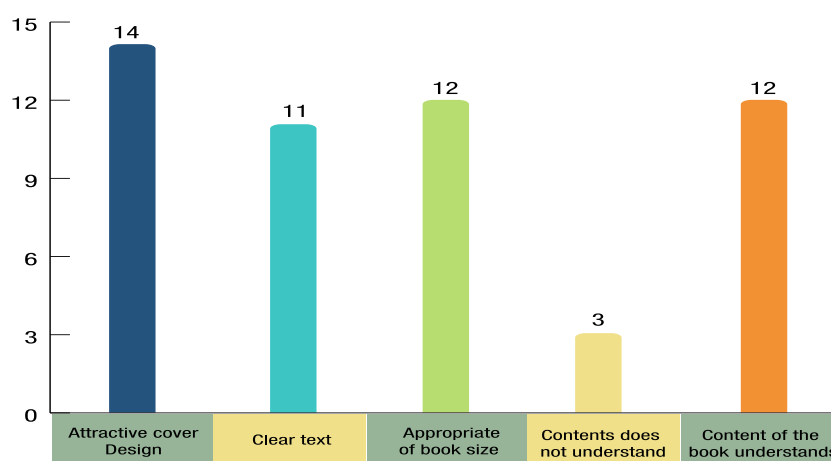


Chart 5.3: Showing future suggestion from students about Visual Mind Map books.

CONCLUSION

The government is committed to upholding historical subjects by requiring all students to study historical subjects. Historical lessons have been introduced as early as 10 years old, which is the 4th year of primary school. Overall, use of concept Visual Mind Map as one of the most effective teaching techniques in improving student achievement in history subjects. The findings clearly show the change of student attitude toward history subjects after being exposed to teaching using visual mind map. Student achievement in history subjects has increased significantly after being taught using a visual mind map. Most students have shown high interest in the history subject.

This study suggests that students studying using visual mind map learning strategies agree to improve performance and understanding in historical subjects. Students can't only enhance the understanding of the topics taught, but can also use this method to solve the problem while

responding to the examination in a more confident way. Therefore, visual mind map learning needs to be practiced and encouraged in history subjects to 4th year students.

RECOMMENDATION

On the basis of the findings of the study the investigators made some suggestions with regard Visual Mind Map the History learning. The content of the history subject should be interesting, simple and comprehensive to the entire student.

The use of Interactive Mind Map software received the highest response among students but the level of use in the classroom was very limited. In with current technology developments, the use of stereotypical subject teaching methods, the focus on textbooks and memorization is no longer relevant. Applying the software of technology in applying historical knowledge and skills to attract students by utilizing the technology provided in school. The use of good teaching aids can have a great

impact on students. Teachers can do a thorough experiment if they want to know which techniques and methods of teaching are most preferred by students for History subjects using computers, LCDs and so on.

Hence, after the visual mind map in history learning has been successful and effective. Must take the initiative to expose this visual mind map technique to all subjects as an effective way of increasing interest and student achievement.

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