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Interactive Mind Map: A Medium of Language Learning in the Online Learning Era

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ABSTRACT: Teaching is one of prominent factors in order the Nation to achieve its national goal; educating the life of the people. The development of teaching should be integrated with the technology enhancement leading the way to expand chances to learn, freedom of learning with or from others, taking place anywhere and anytime. With this advancement of education, it now takes the role in the society 5.0 era by applying the industrial revolution 4.0 innovation like digitalized information, unlimited knowledge access, and most importantly, the online learning. Online learning is a sophistication of learning models that requires the learners to be independent, connects thousands of learners from different backgrounds, is possible to happen anywhere and anytime, and uses various resources. As online learning generally gives learners autonomy, they would have to manage themselves for achieving their learning goal. For example, using interactive media like an interactive mind map helps leaners visualize, summarize, and remember the concepts, as well as managing important information for use. MIRO is an application to create a mind map digitally. In addition, it can be used to build frameworks and diagrams collaboratively within users. Thus, making mind map through MIRO in language learning can be useful and fun because of its interactive features.

KEYWORDS: MIND MAP, MIRO, ONLINE LEARNING

1. Introduction

Teaching is important to achieve the National goal of Indonesia, which is educating the life of the nation. The importance of teaching cannot be separated from its components (Oktaputriviant, 2018). One of the most influential things is using technology as a medium of learning. As technology continues to expand learning opportunities, learning with and from others can occur anytime and anywhere (Ivone et al., 2020; Harianto 2020). This is essential, especially in the online learning era (Internet-based) because there is no face-to-face learning, so technology is a solution to keep the learning process going (Luthfiyyah et al., 2021; Hastuti, 2021).

The implementation of education takes on a role in society 5.0 where people can solve various social challenges by incorporating innovations from the industrial revolution 4.0 such as Internet of Things (IoT), Big Data, Artificial Intelligence (AI) into every field of life including Education (Carrió-Pastor, 2018; Davidson & Goldberg, 2019; Nastiti & Abdu, 2020; Budiman, 2021: Herry setyawan 2019). Digital technology provides unlimited access to knowledge and information, making knowledge easier and faster to disseminate so that it becomes easier for learning (Moore, 2020; Wijayati et al., 2019; Karyoto 2020). Online learning is a best practice because it utilizes the internet network as the main access to establish learning interactions in virtual spaces (Ramkissoon et al., 2020).

A paradigm of independence and freedom of learning like this was called heutagogy. Publications on the heutagogy approach from 2000 to 2019 found that there is a role for technology to support learning with a heutagogy approach (Moore, 2020: Rifai 2020). Technology acts as a tool or media in the learning process, where technology can support learners to actively create and demonstrate the knowledge they have acquired as an implication of their knowledge mastery, especially in online learning (Aguayo et al., 2020; Saptaria, 2021). Online learning is a modernization of better learning in the vast development of technology (Wijayati et al., 2019; Sari 2021). The characteristics of online learning include, (1) relying on the independence of students in learning (2) being able to connect learners from various backgrounds (3) can be done anywhere, anytime with anyone and (4) through any learning resources, including the use of hardware, software, and internet networks (Praherdhiono & Pramono, 2018; Setyawan 2017).

In online learning, the learner has autonomy during the learning process. Therefore, they need the ability to manage the process to achieve the learning objectives (Alonso-Mencía et al., 2020; Setyawan & Nawangsari 2021). They are free to choose which media they will use to learn, for example, using MOOCs (Massive Open Online Courses). MOOCs offer an ideal environment for self-directed learners in student-centered online learning (Beaven et al., 2014). The nonlinearity of MOOCs makes it ideal for a heutagogy approach (Agonács & Matos, 2019; Anders, 2015; Beaven et al., 2014; Sholahuddin, 2021).

There have been many studies examining the use of technology as a medium of learning in the learning process. One of them is the use of media to create interactive mind maps. A mind map is a simple plan with lines and circles to organize information so that it is easier to use or remember (Cambridge Dictionary, 2020). While according to the Oxford dictionary, a mind map is a diagram that presents information with central and connected ideas arranged around it (Oxford Dictionary, 2020). Saleem (2013) in Oktavia et al. (2021) stated that mind maps are learning media by making short handwritten notes in graphs, so it can help summarize important concepts faster (Oktavia et al., 2021; Soepajitno 2019a, 2019b). According to Long and Daniel (2011), a mind map is a visual representation of students' thoughts, which allows students to get information more broadly.

T. Buzan (in Blog Universitas Purdue, 2020) recommended some rules of creating a mind map as follows:

(*1) Start in the centre with an image of the topic, using at least 3 colours. (2) Use images, symbols, codes and dimensions throughout your mind map. (3) Select key words and print using upper or lower case letters. (4) Each word/image must be alone and sitting on its own line. (5) The lines must be connected, starting from the central image. (6) The central lines are thicker, organic and flowing, becoming thinner as they radiate out from the centre. (7) Make the lines the same length as the word/image. (8) Use colours – your own code – throughout the mind map. (9) Develop your own personal style of mind map. (10) Use emphasis and show associations in your mind map. (11) Keep the mind map clear by using radial hierarchy, numerical order or outlines to embrace your branches*.

Following these steps could make an inviting mind map and improve learner's motivation. Mind maps have advantages, such as 1) expressing opinions freely; 2) denser and clearer notes; and 3) notes are more focused on the core material. In addition, Alamsyah (in Muhammad, 2012) argued that the use of mind maps supports *learning*

activities by (a)
seeing a comprehensive and clear picture of the material; and (b) seeing in detail the material.

Mind maps also provide convenience because they are presented in digital form. Based on this elaboration, it is important to discuss applications that can be used to help create digital mind maps in this era of online learning. One of them is the MIRO application, which can create interactive mind maps during the online learning process. MIRO is a virtual whiteboard tool that makes it easy for users to collaborate on a joint project. Therefore, in this paper, we will examine how to use technology as a learning medium in teaching language and literature, especially media that can help students create mind maps. This paper was composed to examine the use of technology as a medium of learning in teaching language and literature, especially media that can help students create mind maps.

2. Material and methods

This research was conducted using a qualitative approach. While the method used is descriptive analysis. The type of research used is a literature study or literature review. According to Snyder (2019), literature study research is conducted to evaluate the state of knowledge on a particular topic. Jorgensen (2017) also explains that the purpose of a literature study is to analize critically a segment of a published body of knowledge through summary, classification and comparison of prioe research studies, reviews of literature and theoretical article. This technique is done by collecting various information or data from various literatures in the form of books. In addition, other literature sources in the form of research materials and journal articles relevant to the issue of using mind map as a medium of language learning. This research was conducted by collecting various related information and data with the issue of mind map as medium of learning in universities. After the data necessary for the research to be collected, the data are then examined, analyzed, interpreted, and packaged into a comprehensive explanation.

3. Results and Discussion

MIRO can be used to create not only mind maps but also frameworks and diagrams with available templates and can be selected according to the needs. With the Online Whiteboard for Visual Collaboration jargon, this application provides an opportunity for users to be able to collaborate virtually in creating mindmaps or frameworks. Other advantages of the MIRO application are (1) Real-time collaboration allowing share results can be viewed, commented on, and edited by teammates, (2) notes of every step from the process, like ones in the Adobe Photoshop application, (3) features links, image, emoji that can be added, emoji display like ones in Whatsapp, (4) created projects can be saved in .pdf, .jpg, .rtf, etc., (5) project results can be shared via e-mail or in the form of links.

Other than MIRO, other studies have developed or researched the feasibility of mind map applications to support the learning process. One of them is the research of Oktavia et al. (2021). Oktavia et al. (2021) developed a digital mind map based on the Mindjet MindManager application. Mindjet MindManager can be used to create mind map presentations, thus it sped up the creation of interesting mind maps (Oktavia et al., 2021). Nanang's opinion (2013) in Oktavia et al. (2021) explained that Mindjet mind managers are

very flexible and can change and modify mind maps. This software was able to create links to other applications such as PowerPoint, Word, Excel, and Macromedia flash.

In addition to these studies, Tavares et. al (2001) also researched the development of interactive mind maps that could be a model for pedagogical resources. This study concluded that the mind map technique has a flexible structure, which allows learners to add shapes, writings, and other images during the making. Thus, it takes a tool or media that utilizes technology to be able to make this mind map still have an innovative layout even in online learning. Interactivity in using the mind map adds dynamism to the learning process and make online learning as engaging as face-to-face learning.

Learning media as a tool to support the learning process makes it easier for students to learn and creates an effective and efficient learning process. Effective, meaning that it can meet the learning objectives and that it is appropriate in accordance with the material being taught (Oktavia et al., 2021). The use of learning media can foster interest and action, present information, and provide instructions to learners during the learning process (Kempt and Dayton in Oktavia et al., 2021).

One of the learning media that can be used is an application to create an interactive digital mind map. Mind maps can be useful in language learning covering any language skill (reading, writing, listening, and speaking). This is due to making mind maps in early learning activities functions as brainstorming (Tavares et al., 2021). The impact of using digital mind map media is better than using a blackboard, according to a research by Atmono et al. (2020). Digital mind maps or electronic mind maps connect the recalling text ideas, colors and real objects, which find information in the learner's mind. In addition, the use of the media is in accordance with constructivism learning theory which describes knowledge as an activity that is built and shaped by the learner (Atmono et al., 2021).

In addition, the learner's response to the use of mind maps in learning is positive. As in Gülsüm A¸sıksoy's research, it stated that learners can remember information well in the learning process because the learning concept is in the form of a mind map (Aşiksoy, 2019).

4. Conclusions

Based on these explanations, it can be concluded that the use of the MIRO application helps the learning process in a good and engaging way. Although there has been no research examining the use of these applications in the online learning process yet, there have been other similar studies using different applications. In addition, other studies also state that developing digital mind map media using the Mindjet mindmanager application is feasible. This strengthens the opinion that it affects the development and enthusiasm of learning in the online learning process.

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