

## E-MODULE ENTREPRENEURSHIP BASED ON MIND MAPPING AS A MEDIA OF STUDENT UNDERSTANDING

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### *Abstract*

*In the context of distance learning, educators face limitations in utilizing traditional learning media, prompting the need to explore alternative approaches for self-evaluation activities. This research focuses on the development of an offline desktop version of an entrepreneurial mind mapping tool as a learning medium. The objectives of this study are twofold: 1) to analyze the feasibility of an interactive learning medium based on mind mapping, and 2) to assess its practicality in terms of structure and implementation. Data collection involved documentation methods, interviews, review sheets, expert validation, and questionnaires. The study employed the 4D stages (define, design, develop, disseminate) to develop the product in an e-module format. The findings indicate that the developed learning medium is highly feasible and practical. It significantly enhances students' understanding compared to other learning media, as evidenced by the measured results. Students responded positively to the developed media, suggesting that interactive learning media based on mind mapping in entrepreneurship courses can effectively support student understanding, especially in the context of distance learning.*

**Keywords:** E-Module, Entrepreneurship, Media, Student Understanding

### 1. INTRODUCTION

The educational paradigm in Indonesia allows an individual to be able to learn and develop perfectly. This refers to the view that the importance of the quality of education in a country underlies the measure of a nation's progress. So that it is felt necessary to have a correlation between the implementation of existing education and the goals of national education which can be seen in the learning process that pays attention to cognitive, affective, and psychomotor aspects in order to see their achievements. Meanwhile, from an external touch, education is not always related to activities carried out in learning only in class. However, the touch of technology and information in the field of education provides a new approach through tools that can facilitate understanding in teaching and learning schemes.

Education continues to experience development with the renewal of IT-based learning concepts in which it can become a means of developing and increasing the potential for the quality of human resources. Based on the concept of strengthening the governance of the teaching and learning process, (Pratama et al., 2022) provides an explanation regarding the development of mindset and learning culture. The findings are intended so that students get knowledge that is fully composed from various disciplines in studying the material presented and can have an impact on their learning outcomes. So that the lecturer has a central role in implementing learning outcomes through learning schemes with the right media during teaching and learning activities. (Arifin et al., 2018).

The era of the Covid-19 pandemic made major adjustments, especially to the systematics of learning in Indonesia. The change in the concept of learning from face-to-

face to distance learning makes it necessary to have suitable media as a tool that can convey material well. The use of video conferencing media, e-learning, electronic books to IT-based assignments continues to be used today. However, the existing media is still narrative in nature and can only represent explanations of flowed material concepts. Therefore, it is necessary to develop new media that can represent explanations of material that are synonymous with text. This is based on learning analysis using video conferencing media, e-learning, electronic books which still places limitations on students' ability to hear and understand but are not given the opportunity to try to apply it themselves. Therefore, the development of mind mapping learning media is expected to be able to bridge the explanation of the material which lies in the material concept map. The temporary assumption related to the urgency of implementing mind mapping application-based learning media is also based on scientific findings found by (Harahap & Ghofur, 2020) rough a description of the basis for the results of mind mapping learning media trials can increase student understanding by 30.6 % on national income material and test results that prove there is a statistically significant difference between before using the media and after using the media. These results strengthen the indication that the use of mind mapping media when used on material with theoretical schemes can have implications for student learning outcomes, especially in complex material constructions. Other support also lies in the scientific conclusions put forward by (Liu et al., 2018) through providing a classification if the use of mind mapping as a learning medium can not only increase students' understanding but also be able to be involved in strengthening the ability to think logically and innovatively and can provide motivation that supports students' lifelong learning thinking itself.(Arifin & Utomo, 2022).

Based on the background description provided, considering the challenges encountered by teachers and students, the increasing collaboration between education and technology, and the support from expert opinions and previous research, there is a pressing need to prioritize the development of learning media. This development aims to enhance student understanding and optimize the learning process. The significance of this study lies in its potential to address the limitations of traditional learning media in the era of distance learning. By utilizing an interactive e-module based on mind mapping, it offers an innovative approach to engage students and facilitate their comprehension of entrepreneurship concepts. Additionally, the study contributes to the existing body of knowledge by evaluating the feasibility and practicality of the developed learning media, providing valuable insights for educators and researchers in the field of entrepreneurship education.

## **2. LITERATURE REVIEW**

### **2.1. Learning Theory**

The definition of learning according to Pane (Syam AR & Kwartatmono, 2020) connects that learning is defined in the process of changing behavior which is the result of the relationship that exists between individuals and their environment. Meanwhile, according to Reber in Supriyadi (2015) interpreting learning is the process of acquiring knowledge or the process of acquiring knowledge can be defined as learning. Changes in behavior towards learning outcomes have sustainable characteristics, have functional values, are positive, active, and directed.

Besides, in learning must use the presentation of statements that are theoretical or rational. (Arifin et al., 2018) defines theory as a set of principles that are organized into certain events in the environment. The function of theory in the context of learning according to (Arifin et al., 2018) has several mentions, including: providing a conceptual framework for learning information, providing references for preparing learning implementation plans, diagnosing problems that occur during learning activities, assessing learning events in a person, and examine external factors that facilitate the learning process.

Constructivism philosophy gives birth to a thought with their knowledge of a structure of one's concept. Concepts that arise from the results of a person when dealing with experiences are then created in a conclusion that forms knowledge. So that in (Maulidah & Soejoto, 2015) defines knowledge as factum (what is made), et verum (what is known), convertuntur (convertible from one to another). Piaget with the possession of the focus point of self-discovery learning as the basis for his constructivism theory. In contrast to Vygotsky's theory of constructivism where social constructivism is developed by shifting individuals into assisted-discovery learning. The movement of emphasis on the same theory begins when there is a conceptual shift from individual to cooperative, social interaction, and sociocultural activity that is applied to a learning model.

In line with this, the cooperative learning model has an important foundation by adapting a concept of Vygotsky's social constructivism theory. Cooperative learning from Suprijono, (Rahayu, 2021) is a learning concept with social interaction that lies in the existence of group work with the teacher as a director who guides group work activities. So that teachers in cooperative learning have job desk to assign tasks, questions, and provide materials and information designed to help students solve the problem in question. Coupled with the teacher who gives a certain form of exam at the end of the task.

## **2.2. Learning Media**

According to (Surya et al., 2021) describes learning in the media using useful tools for teachers to channel information and willingness that can support the deliberate implementation of the teaching process, with ownership of goals and control through the suitability of learning theory so that learning objectives can be achieved. The meaning of learning media according to (Arsyad, 2010) is defined as all things that are used during learning activities as a tool to send messages so that information can influence learning outcomes to be higher. Daryanto in (Kurniawan & Azizi, 2015) defines, "Media is a component of communication, namely as a messenger from the communicator to the communicant, based on this definition it can be said that the learning process is a communication process".

Learning media refers to the tools, resources and materials used to facilitate the learning process and deliver educational content to students. Learning media includes various forms of media and learning materials that support teaching and enhance students' understanding and engagement with the subject matter. By using a variety of learning media, educators can cater to different learning styles, increase engagement, and create a more effective and inclusive learning environment.

### **2.3. Mind mapping**

According to (Purosad et al., 2020) mind mapping is a display of visual forms and images, which are displayed in colors so that they are attractive, easy to observe and trace for sharing as media for presentations and discussions in conveying learning objectives. In mind mapping there are various categorizations such as the central idea which is divided into several main sub-categories, and then broken down into branches.

Mind maps are a way to facilitate mapping, recording in an innovative, effective and creative way to literally describe a thought. After the data is mapped according to the charts needed, it is then recorded visually as attractively as possible, this can help or form a mind map. (Triatmojo et al., 2016)

Mind mapping is also interpreted as a categorization that is carried out in a learning and thinking system for selecting, organizing, and managing information that is formed with charts into a concept map that is easy to understand. The form of mind mapping is to form a branch that leads outward from a central idea which is composed of easy-to-understand lines, charts, symbols, pictures and words.

### **3. RESEARCH METHOD**

Research and Development is a term adopted by researchers as a type of research to test the development of mind mapping products in the form of e-modules in entrepreneurship courses. Submission which is also corroborated by Sugiyono (2015) through his opinion regarding research and development methods is a way of systematic and structural research that has uses in producing products as final results and in which there are procedures to test the effectiveness of the products made. The R&D research element also determines the final product of the offline desktop version of the economic mind mapping media not only as media but also functionally as a learning resource center. The development of learning media is referred to as the use of 4D models with the results of alterations following the development of the research structure of Thiagarajan. The 4D model strives for more optimal product development results, so that the procedural steps according to Thiagarajan and Sivasailan (1974) are divided into four stages: define, design, develop, and disseminate. The learning media designed and researched have passed the due diligence review and validation in collaboration with several practitioners and expert lecturers. Product feasibility trial activities are targeted at students after the mind mapping e entrepreneurship module product development stage has been completed.

The description of the steps of the Mind Mapping learning media e entrepreneurship module has been compiled by researchers in a structured research design. The first stage carried out by the researcher is the define stage which is composed of 5 analyzes which are (1) initial analysis, (2) students, (3) concepts, (4) assignments, and (5) formulation of learning objectives. The design stage is the second stage that must be passed with 3 main steps, which are (1) preparation of tests, (2) selection of media adjusted based on learning objectives, (3) selection of formats. The next step taken by the researcher is the third stage in this study, namely the development stage, in which there are several steps, namely (1) review and validation of the device by experts, (2) limited and field trials on the product, (3) revision. The last stage that the researcher went through was the disseminate stage by spreading the media. The goal is that the product can be

used in other areas. And the trial design used in the entrepreneurial mind mapping learning media module E uses a limited testing phase.

#### **4. RESULTS AND DISCUSSION**

In this study, the researchers developed interactive e-modules for entrepreneurship courses as the output of the product development process. The study followed the 4D model, consisting of four main steps: definition, design, development, and deployment, based on the framework proposed by Thiagarajan and Sivasailan (1974). To enhance the effectiveness of the e-modules, the researchers incorporated mind mapping elements, drawing inspiration from relevant analogies and the concept of mind mapping as outlined by Liu et al. (2018). The mind mapping elements included the center of the mind map, main branches, branches, words, images, and colors. By using these elements in a detailed and concise manner, the researchers aimed to help students focus on and better understand the presented explanations.

The concept of mind mapping also facilitated the organization of the material within the e-modules, allowing for a categorization scheme based on branches related to specific material indicators. This approach prevented the mixing of different materials within the main view, making it easier for students to grasp the core content and additional details. During the production process, the researchers carefully selected bright color combinations. These colors were chosen to create a visually engaging experience for users, as they are structurally familiar and have psychological effects that promote relaxation and increased interest in reading the e-modules.

The overall feasibility of the e-module, which integrated mind mapping elements, was assessed through validation conducted by material, media, and evaluation experts. The validation process involved the assessment of the content of the material in the offline desktop version of the entrepreneurial mind mapping learning media by a subject matter expert. The average validation results from the material experts indicated that the content met the appropriateness criteria. The feasibility of the media as a whole was determined based on the data collected, resulting in a validation score of 87%. This indicates that the media meets the eligibility criteria, as supported by comparable values found in relevant research conducted by Pratama et al. (2022). According to their study, a validation score exceeding the minimum threshold of 75.01% indicates the suitability of the developed media for learning purposes.

To measure the practicality of the media, the researchers designed a questionnaire instrument targeting students, who are the main users and trial subjects of the e-modules. The instrument aimed to assess students' experiences with the offline desktop version of the entrepreneurial mind mapping media and their perception of its practicality in supporting their understanding of the material. The results of the practicality measurement indicated that students found the material aspect of the e-module to be highly practical for learning in entrepreneurship courses, surpassing the practicality of other available media with a score of 88%. Therefore, it can be concluded that the entrepreneurship e-module exhibits good practicality in supporting student understanding in entrepreneurship courses.

## 5. CONCLUSION

The incorporation of the mind mapping learning model in this study has demonstrated its contribution in enhancing students' comprehension of the material to a higher level. The structured teaching approach, which focuses on connecting core concepts constructively, has proven to be effective in increasing understanding of the material through the utilization of the developed mind mapping media in entrepreneurship courses.

The researchers' contributions to this study serve to improve future research endeavors in several aspects. Firstly, media development would benefit from a more detailed eligibility scheme at the language level to optimize the definition of terms used in the material. Secondly, to assess the effectiveness of the media, it is recommended to conduct a systematic product trial that employs precise measurements of literacy understanding. This would provide further insights into the efficacy of the developed media. Lastly, the analysis of positive student responses can be further optimized by adapting new learning models that align with the learning styles of students in Generation Z.

By addressing these considerations, future research in the field can build upon the findings and further enhance the development and implementation of learning media in entrepreneurship courses, ultimately fostering improved understanding among students.

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