Development of a Digital-Based Mental Health Module as an Optimization of Hybrid Learning during the Covid-19 Pandemic for Tertiary Students

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Abstract. This study aims to develop a digital based mental health module that will help higher education students comprehend the theories, issues, and counselling practices related to mental health. The module was developed for use in a technology-enhanced hybrid learning approach. The Borg and Gall model was used in this research. The subjects were 90 students from the Guidance and Counselling Department at Universitas Negeri Medan, divided into 60 for a limited trial assessment and 30 for an actual assessment. The results showed that this digital-based mental health development module was categorized as good in the content feasibility aspect, very good in the language and image feasibility aspects, very good in the presentation aspect, and good in the graphic aspect. Furthermore, the study's findings indicated that classes that utilized the module in this study performed more effectively in terms of learning process than classes that did not use the module.

Keywords: Mental Health, Module, Digital-Based, Hybrid Learning

1 Introduction

Beginning in March 2020, the Covid-19 virus started to spread throughout Indonesia, with a variety of effects on social, political, economic, and educational spheres. The spread of Covid-19 has been stopped by a number of interventions. The World Health Organization advises wearing masks, cleaning your hands, avoiding close contact with others, and engaging in physical activity. Many countries, including China, Italy, Spain, Malaysia, and the Philippines, have implemented lockdown systems [1]. Because of these nations' COVID-19 Policies, it is now difficult to enter and leave the country. The implementation of the health protocol in Indonesia began in mid-March 2020 with the acceptance of Large-Scale Social Restrictions (PSBB), followed by the creation of a Work From Home (WFH) policy for employees. A system of social constraints, physical exercise, and mask wearing was adopted in almost all districts [2,3]. Additionally, the Ministry of Education and Culture announced that learning will take place online instead of in classrooms, which would stop teaching and learning activities [4]. This policy is consistent with policies in other countries. Schools in 188 countries will be closed on April 8, 2020. According to UNESCO, more than 90% of registered pupils (1.5 billion children) are not currently enrolled in school [1,5].

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Furthermore, the government, through the Ministry of Education and Culture, has opened the possibility of maximum face-to-face learning beginning at the start of the new 2021-2022 school year, while still monitoring developments in the situation and conditions of the Covid 19 virus transmission and implementing a very strict health protocol [6,7]. This policy is a follow-up to the evaluation results from the Distance Learning (PJJ) policy implementation during the Covid-19 epidemic [3].

The Indonesian Psychiatric Association (PDSKJI) conducted an online survey on mental health through self-examination. According to the survey, as many as 63 percent of respondents had anxiety and 66 percent had depression as a result of COVID-19. People with anxiety tend to worry about something bad happening, worry too much, become irritable, and have difficulty relaxing. Furthermore, up to 80% of respondents reported signs of post-traumatic stress disorder as a result of experiencing or witnessing unpleasant experiences associated to COVID-19. A total of 46% of respondents reported post-traumatic stress symptoms, 33% reported post-traumatic stress symptoms, 2% reported post-traumatic stress symptoms, and 19% reported no symptoms. Post-traumatic stress symptoms include feeling remote and apart from others, as well as feeling constantly alert, attentive, and on guard (Indonesian Association of Mental Health Specialists, 2020). Out of the 14 typically observed as a result of the COVID-19 pandemic, there are at least four major risk factors for depression: isolation, social distancing, economic strain, stress and depression among health workers, and stigma and discrimination [9].

The Covid-19 pandemic increased symptoms of stress among students, according to a literature review by Kartika in 2020. Anxiety, stress, and depression are common psychological problems experienced by students. Several factors contributed to the development of these psychological problems, including a large number of lecture assignments and a difficult time working on group assignments. There is often a feeling of constraint, inability to engage in hobbies as they used to, difficulties adapting, boredom with online learning, and changes in family dynamics. Researchers found that students' mental health was impacted by the Covid-19 pandemic in Central Kalimantan in a study conducted by Teguh [12]. The many factors that cause stress in online lectures make students must have strong self-defense so that they can optimally attend lectures. Students must be able to manage their mental health, for example by knowing their emotional state. Students must also have strategies to deal with the anxiety they have. Research conducted by Benjet [1] emphasizes the importance of student stress management skills to reduce stress and even depression.

According to the Center for Public Mental Health [2], various problems have arisen during this pandemic. Before this pandemic, students often experienced stress and other pressures due to lecture assignments. However, during this pandemic, more and more students are experiencing stress because there are far more assignments than before. Many lecturers give assignments during online lectures because they think students don't have other assignments. Many students find it difficult to do assignments because the understanding they get is not much. Likewise, with the facilities they have, not all students have adequate facilities and knowledge to operate technology when conducting online lectures. This change in learning methods took place quickly so many parties were not ready and found it difficult to master technology. Various efforts that have been made by educators, educational staff, and students in mastering technology have created various pressures, so it is very important to pay attention to and manage each individual's mental health [4]

When students can overcome these obstacles and adapt to existing changes, their ability to take part in online learning will be more optimal. This is also in line with research conducted by Meri [8] that students must be able to deal with psychological problems that arise as a

result of the Covid-19 pandemic situation such as stress, anxiety, and depression by increasing coping strategies. Teguh et al [12] showed that the Covid-19 pandemic situation had an impact on the mental health of students in Central Kalimantan. Students have anxiety regarding the achievement of academic scores and the time of graduation of their studies. This makes it important to increase student relations with academic advisors so that students get the motivation to increase awareness of their mental health. Nevertheless, Irawan, Dwisona, & Lestari [5] found that students in Samarinda began to feel bored after two weeks of online lectures. As a result of having to purchase an internet quota to access lectures online, students with low parental income have been observed to experience anxiety. Moreover, students often experience mood swings as a result of completing many assignments.

In order to decrease the COVID-19 pandemic's effects, notably on mental health, the government has developed guidelines for mental health and psychological support. This recommendation refers to WHO guidelines and is meant to serve as a guide for local governments when it comes to treating cases of mental illness. To assist the populace in overcoming the psychological illnesses brought on by the COVID-19 pandemic, the government is also working with the Indonesian Psychological Association (HIMPSI) to provide Sejiwa services [9]. This program intends to offer persons affected by the COVID-19 pandemic public education, consultation, early psychiatric consultations, and companions in dealing with probable health concerns mental health.

To support the management of student mental health, practical methods are needed that can be used to manage personal mental health so that optimization of online learning during a pandemic can be realized. Therefore, an alternative solution is needed that can overcome all these problems. The development of a product or media is the solution that is considered the most appropriate. The products developed are products that can be used as preventive services and are developmental for mental health. In addition, the media needed can reach all students, be able to utilize information, and be able to make students independent in dealing with disturbances or pressures experienced, to improve mental health.

The thing that is no less important is that the media is easy to use anytime and anywhere. Referring to this statement, the most appropriate product to be developed is media in the form of modules. This media is named "Digital-Based Mental Health Module". The reasons for choosing the module as an information medium to help provide an understanding of mental health are: 1) there are no special hours for classical guidance services in schools so modules are needed that students can use independently, 2) the module can assist prospective counselors in helping students develop mental health, 3) modules are specially designed learning materials in a systematic, interesting, and accompanied by illustrations as well as intellectual, optimal emotions from a person and that development is in harmony with the development of others.

The mental health module is an independent teaching material that contains the concept of individual self-development (students) in the personal, learning, and social fields, which are arranged systematically for students in the lecture process, to increase the effectiveness of learning in theoretical lectures on campus, both time and facilities. , as well as manpower to achieve lectures optimally. digital-based mental health modules are used to assist students in understanding material and practical concepts about mental health. the mental health module used by students currently only contains limited concepts and worksheets and implementation instructions.

Modules, namely self-study materials, help students master their learning objectives, and program packages are arranged and designed in such a way for the benefit of student learning. So it can be concluded that the module is a program package that is arranged and designed in

such a way as independent learning material to help students master their learning objectives. Therefore, students can learn according to their own pace. To produce modules that can increase motivation for their use, the developed module must have the necessary module characteristics. It is required that the module be self-instructive, self-contained, stand-alone, adaptive, and user-friendly, according to the Directorate of Vocational High School Development [13]. The first option is self-iInstruction, which allows students to study independently without depending on others. For self-instruction to be successful, the following elements must be present: clear learning objectives, small, focused activity units, examples and illustrations that support the clarity of the presentation of learning materials, practice questions, assignments, and the like, context, simple, communicative language, a summary of the learning material, and the availability of a self-assessment tool (self-assessment); feedback on student assessments; and information about referrals. Then, number 2 (two) is self-contained that required learning materials are included in the module. Number 3 (three) is stand alone that means students can do the study and the assignments in the module by them self. Number 4 (four) adaptive that it means the module can adapt to developments in science and technology, flexible to use on various hardware devices, and can be used for a certain period. And the last, number 5 (five) is user-friendly/familiar that means the module's instructions and informations exposure is easy to understand.

Specifically for organizing lectures on campus, the Director General of Higher Education stated thate there are a few Implementation of Learning in the Even Semester of the 2020/2021 Academic Year. Lectures starting in January 2021 are permitted and directed to be implemented through the implementation of hybrid learning (HL). HL refers to the definition of offline and online face-to-face lectures simultaneously. Some students are offline on campus and most of them stay online at their respective places. The maximum offline number is 50% of the total number of students taking the course concerned. One way is to develop digital-based mental health modules to support the optimization of Hybrid Learning in the lecture process for counseling guidance students at Medan State University. Based on the background above, this study aims to develop a digital-based mental health module as an optimization of hybrid learning for undergraduate students in counseling and counseling.[14].

2 Research Methods

This research uses development research which is commonly called Research and Development (R&D). According to Borg and Gall [10], development research is a study method used to design or validate educational and learning goods. The research and development that will be carried out are to produce digital-based mental health modules as an optimization of Hybrid Learning learning for BK FIP UNIMED students. The resulting product will go through various research and refinement procedures to produce a product that is useful and suitable for use. One of the research and development methods is the 4D model. Learning tools are created using the 4D model. S. Thiagarajan, Dorothy S. Semmel, and Melvyn I. Semmel created the 4D model in 1974. The 4D model, as the name implies, comprises four major stages: define, design, develop, and disseminate. The steps completed in this study only reached the development stage [10]. The following is the 4D Model Learning Product Development stage:

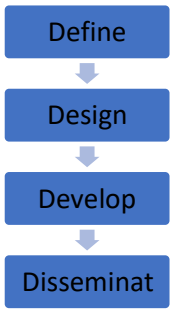

Fig.1. 4D model research and development chart

a. Define Stage
This phase is concerned with the requirements to research and compile information on the extent to which the development must be carried out, and it comprises (a) preliminary analysis, (b) student analysis, (c) task analysis, (d) idea analysis, and (e) identifying instructional objectives [11].
b. Design Stage
This stage comes after the define stage, which must go through the following four steps: (a) building criterion-referenced tests; (b) choosing media; (c) choosing formats; and (d) basic design (Thiagarajan, et al, 1974).
c. Develop Stage
This stage's goal is to create a development product, which will be the result of (2) two processes, namely (a) expert evaluation and (b) developmental testing. There are adjustments in between these two processes.
d. Stage of Dissemination (Dissemination)
This stage is the last stage which focuses on product promotion where the product is disseminated for use by users.

3 Results and Discussion

3.1 Results

After the design results were completed, the material's initial submission of the assessment underwent several product revisions. In order to determine the feasibility of the final product, a questionnaire is completed by the material expert after the modifications have been made. Material experts assessed four aspects, including content feasibility, linguistics, presentation, and graphics. The following table shows the results of the due diligence performed by material experts:

Table 1. Overall Material Expert Assessment Results Data

No	Material Expert	Percentage	Information
1	Expert 1	94,05%	Very Eligible
2	Expert 2	95,23%	Very Eligible
Average		94,64%	Very Eligible

Based on the assessment results data from the questionnaire given to material experts, the module product was declared very feasible with a percentage of 96.64%, and could be used in learning. A questionnaire was filled out by the media expert after the revision to determine whether the product was feasible. Media experts assess aspects of design, convenience, consistency, format, usability, and graphics. Data from the assessment results provided by media experts can be seen in Table 2, below.

Table 2. Overall Media Expert Assessment Results

No	Media Expert	Percentage	Description
1	Expert 1	96.25%	Very Eligible
2	Expert 2	95%	Very Eligible
Average		95,63%	Very Eligible

As determined by the results of the questionnaire given to media experts, the module product was declared very feasible with a percentage of 95.63% and could be used in learning. This module has been determined to be very feasible to use based on the assessment results of material and media experts. So, this module provides good quality information that can be used in learning. Using the results of material and media experts' assessment, it appears that this module can be easily implemented. Due to the quality of this module, it is suitable for use in the learning process. After the module is revised after the expert test, to achieve perfection, this module will conduct a feasibility test for 30 Semester IV BK students at the State University of Medan, where students are given an assessment instrument through the G-Form to provide input or rebuttal to the materials and methods—and the time contained in the module.

Table 3. Overall Respondent Assessment Results Data

No.	Aspect	Percentage	Description
1	Presentation of Material	95,64%	Very Eligible
2	Language	94,17%	Very Eligible
3	Graphics	94,52	Very Eligible
4	Benefits	92,78%	Very Eligible

Based on the results of the BK student response questionnaire to this module, it can be concluded that the quality of the module technically gets a very decent category with a percentage of 95.64% in the presentation of material, 94.17% in the linguistic category, graphic rate by 94.52%, and the benefit aspect is in the 92.78% category. Thus, this digital-

based mental health module is feasible to be used as teaching material for a learning process on campus. The feasibility of the population is carried out in trials and product improvements that have been perfected. In this stage, product trials are carried out with a larger sample because the sample must represent the population both in number and in its characteristics. At this stage, the researcher concludes that the product developed is already in the category of Very Appropriate for use by lecturers and students in providing teaching materials and understanding the concept of digital-based mental health for BK FIP UNIMED students.

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3.2 Discussion

In this study, we discuss the issues raised in the problem formulation to address them. The results of this development research are of two kinds, the first is the production of digital-based mental health modules and the second result is to determine the feasibility of the modules that have been made.

The results of compiling digital-based mental health modules are manifested in printed form and an outline of the content consists of the initial sections: the title page, the preface, the table of contents, the diagrams and tables, the description of the material, and the instructions for using the module. Parts of the activity include the activity title (1, 2, 3), the learning materials description, assignments, exercises, summaries, and bibliography. The front cover of the module displays an image or design that represents the overall content and is composed of 13 Topics. Every subject matter of learning has a topic list on its start page. There is a description of the material in every module, which makes it possible for the module to be used as an independent learning tool.

Students are provided with completion for tasks and exercises so that they can prepare for the work step stage and follow instructions. A report format is used to collect the results of assignments and exercises in order to assess learning outcomes.

A four-pronged approach was used to evaluate the results of the due diligence conducted by respondents. These were module presentation, language, graphics, and benefits. The module, seen from the aspect of presenting the material, obtains a percentage of 95.6%, which is in the very decent category. In the linguistic aspect, a percentage of 94.2% is included in the very decent category. In the graphical aspect, a percentage of 94.5% is included in the very decent category. Meanwhile, in the aspect of the benefits of the module, a percentage of 92.8% is included in the very decent category. Thus it can be seen that the module that has been produced meets the requirements as a digital-based mental health module teaching

material. So it can be interpreted that the module is suitable for use by Guidance and Counseling (BK) students at Medan State University.

4 Conclusion

The following conclusions can be reached in light of the research and discussion findings: Digital-based mental health module products for Guidance and Counseling (BK) Students at Medan State University were developed using the 4D, namely: The research and data collection phases, the planning phases, the product drafts, the expert validation tests, the revising of the module as a result of the due diligence results, and the research phase are the six main steps. Following that, this digital-based mental health module is prepared based on the results of expert assessments that have been declared suitable for use as learning media, as well as the results of trials by users, namely students, who are included in the very feasible category after going through initial field trials, main field trials, and operational field trials.

5 Suggestion

Based on the conclusions above, researchers suggest the use of this digital-based mental health module to:

a. Student
   1) Individually read in full the digital-based mental health module developed by researchers and students can use it independently.
   2) Read the general instructions carefully to avoid mistakes in using the module.

b. Lecturer
   1) Can direct students to use this module independently.
   2) To direct students to use this module so that they can anticipate and overcome various difficulties experienced in the learning process.
   3) Further Researchers. The suggestion for further researchers is expected to develop a digital-based mental health module.

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