



Development of an Online Counseling Model Based on Mindfulness-Based Cognitive Therapy to Reduce Alexithymia in Students

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Abstract

The instability of psychological development during this period puts teenagers at risk of experiencing alexithymia, which is a disorder in the form of an inability to identify, understand and respond to the feelings of themselves and others which then appears in the form of weak empathy. A further impact of this disorder is interpersonal relationship problems at the next stage of adolescent development. Apart from that, there is a tendency for more serious mental disorders to emerge. The aim of this research is to develop an online counseling model based on Mindfulness-based Cognitive Therapy to reduce the condition of alexithymia experienced by middle school students. The model developed is predicted to be able to provide significant changes considering that counseling media is also carried out via a web-based platform, so that it will increase the opportunity to reduce mental disorders experienced by students. This research is development research which is planned to last for 1 (one) year, where the results of research that has been carried out previously, especially related to online counseling (since 2014) are the basis of this research. This research uses a research and development approach with modified ADDIE principles, resulting in a product in the form of an online counseling model that is able to accommodate the process of reducing alexithymia disorders in students. With a combination of a post-modern counseling approach and the use of internet media, it produces a product that has high novelty in reducing psychological disorders in students.

Keywords: online counseling, MBCT, alexithymia

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Introduction

The development of science and technology has brought significant changes to human life, both in work productivity and in the way humans interact. Technology is a form of human culture that is born from ideas, creativity and needs, providing many conveniences and increasing effectiveness in various sectors. One of the most obvious examples of the impact of technology is the use of social media, which is now an integral part of everyday life. Social media makes communication easier at low cost and high speed, but on the other hand it also presents new challenges, such as increasing issues of intolerance, hatred and racism, especially among teenagers (Jalil, 2021)

Adolescents, as a group that is in a transition phase towards adulthood, face many challenges both from a biological and psychological perspective (Aldora et al., 2022). One psychological phenomenon that often occurs in teenagers is alexithymia, namely difficulty recognizing and expressing emotions. This condition can affect their social relationships and emotional development, which in relationships has an impact on mental well-being (Kano & Fukudo, 2013). Alexithymia is often overlooked because its symptoms are not always easily recognized, but it can cause teens to become trapped in more serious emotional problems, such as depression, anxiety, and interpersonal disorders. In DSM-V, alexithymia is not categorized as a mental disorder (Taylor & Bagby, 2012).

In Indonesia, there are several studies that discuss alexithymia, namely Harjanah's research which found 32.2% alexithymia from a sample of 215 people aged 18-22 years (Theresia Wira Harjanah, 2018) and in Lestiani's research there were 70 people (47%) who had alexithymia from 150 people aged 18-23 years (Lestiani, 2023). So far, various efforts have been made to overcome alexithymia disorders in adolescents through counseling and psychological interventions. Even though the symptoms are still rarely understood and known, schools and parents have provided solutions in the form of regular counseling services (Hurel et al., 2023). However, the results of this intervention are still not well measurable, and have not even shown a significant reduction in the adolescent population with alexithymia. The impact when the solutions provided do not provide satisfactory results is an increase in the number of teenagers experiencing alexithymia.

Considering the condition of alexithymia experienced by students in the form of varying degrees or levels, the demographic conditions of students and the ineffectiveness of treatment and counseling services at school in reaching students' psychological conditions, it is necessary to have an approach based on methods and media that are close to students' daily lives. Guidance and counseling services not only help students with problems (curative) but also provide preventative assistance and students' self-development as optimally as possible (Rahima et al., 2015). Fitriani et al., (2022) service delivery strategies in the technological era require effective innovation so that prospective counsees voluntarily request assistance from counseling services, so that online counseling becomes a natural thing to do, and in these conditions, the application of technology in counseling services becomes one of the effective solutions in reaching problem conditions in students and their alleviation. Technology in counseling was initially used as a medium to make it easier for school counselors to collect, process and analyze data to support service delivery activities (Syamila & Marjo, 2022).

Along with the development of technology, guidance and counseling services have also experienced a transformation, one of which is the application of online counseling, counseling is no longer done face to face, but can be done remotely using an internet network called cyber counseling (Ifdil & Ardi, 2013). In this digital era, online counseling has become an effective alternative for reaching teenagers with emotional problems such as alexithymia. Online counseling not only provides convenience in terms of access, but also reduces geographic and social barriers, so that adolescents are more likely to seek help without feeling awkward or pressured (Hurel et al., 2023) Existing technological developments have influenced all aspects of life, one of which is guidance and counseling services. Advances in information and communication technology have had a major influence on counseling guidance services (Hariko Rezki, 2017).

One approach that has been proven effective in overcoming emotional problems in adolescents is Mindfulness-Based Cognitive Therapy (MBCT). MBCT combines the principles of mindfulness with cognitive therapy, which helps individuals become more aware of their thoughts and feelings, and change negative thought patterns (Kabat-Zinn & Thich Nhat Hanh, 2013). This approach is particularly relevant in treating alexithymia, as it can help adolescents better recognize and manage their emotions. Research shows that MBCT is effective in reducing the symptoms of alexithymia, improving emotional well-being, and even reducing the risk of depression and anxiety disorders that are often associated with this condition (Kano & Fukudo, 2013).

The development of science and technology has brought significant changes to human life, both in work productivity and in the way humans interact. Technology is a form of human culture that is born from ideas, creativity and needs, providing many conveniences and increasing effectiveness in various sectors. One of the most obvious examples of the impact of technology is the use of social media, which is now an integral part of everyday life. Social media makes communication easier at low cost and high speed, but on the other hand it also presents new challenges, such as increasing issues of intolerance, hate speech and racism, especially among teenagers.

Adolescents, as a group that is in a transition phase towards adulthood, face many challenges both from a biological and psychological perspective. One psychological phenomenon that often occurs in teenagers is alexithymia, namely difficulty recognizing and expressing emotions. This condition can affect their social relationships and emotional development, which in turn impacts mental well-being. Alexithymia is often overlooked because the symptoms are not always easy to

recognize, but can cause teens to become trapped in more serious emotional problems, such as depression, anxiety, and interpersonal disorders.

Along with the development of technology, guidance and counseling services have also experienced a transformation, one of which is the application of online counseling. In this digital era, online counseling has become an effective alternative for reaching teenagers with emotional problems such as alexithymia. Online counseling not only provides flexibility in terms of access, but also reduces geographic and social barriers, so teens are more likely to seek help without feeling awkward or pressured.

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With the increasing development of technology, the development of an online counseling model based on MBCT is a potential solution in helping students with alexithymia. This model not only allows counselors to provide interventions more efficiently, but also makes it easier to monitor student progress. MBCT-based online counseling provides a holistic approach that is not only curative but also preventive, so that students can improve their emotional competence and overcome the challenges they face in everyday life.

This article aims to examine in more depth the development of an online counseling model based on Mindfulness-Based Cognitive Therapy (MBCT) as an innovative solution for reducing alexithymia in students. This approach is expected to be able to answer the challenges faced by teenagers with emotional disorders, as well as provide new insights regarding the application of technology in guidance and counseling services in the digital era.

Method

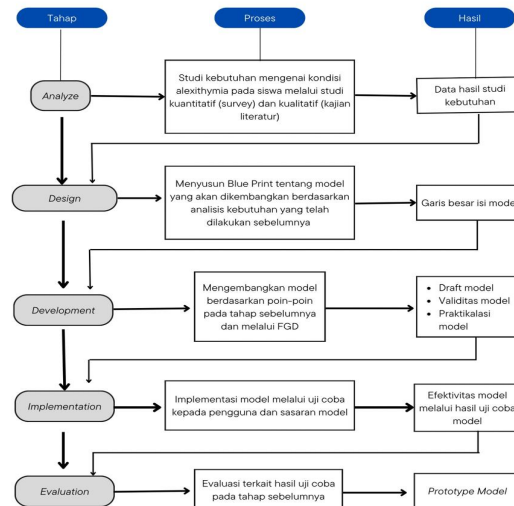
This research is development research. The research and development method can be interpreted as a scientific way to research, design, produce, and test the validity of the products that have been produced (Sugiyono., 2018). According to A. Muri Yusuf, (2014) mixed research is combining quantitative and qualitative research in researching one problem. This research aims to produce an online counseling model to reduce alexithymia in students using mindfulness-based cognitive therapy techniques. For this reason, this research will produce a certain product or model by testing the validity, practicality and effectiveness of the product (Borg & Gall, 1989)

The research and development model is the basis for developing the product to be produced. In this research, a complete answer to a problem will not occur. "Fixed" answers will not be possible, because of the relationship between one problem and another, as well as the possibility of 'error' in the research process (A. Muri Yusuf, 2005) This research aims to produce an online counseling model to reduce alexithymia in students using the mindfulness-based cognitive therapy (MBCT) approach. For this reason, this research will produce a certain product or model by testing the validity, practicality and effectiveness of the product (Borg & Gall, 1989). In testing the validity, data were collected and analyzed from expert judgement, namely guidance and counseling experts and programming/ information technology experts to determine the validity of the model, then for practicality testing was carried out by collecting assessments from counselors. Effectiveness testing is carried out using a single-subject experimental design method that can provide a variety of information about client conditions and interventions carried out by counselors (Ardi et al., 2022). This approach was chosen in order to explain in more detail the changes in behavior that arise as a result of the intervention by making repeated observations over a period of time.

The development procedure applied in this study follows the development steps of the AADIE model proposed by Robert maribe Branch. This is because the AADIE model uses the basics that are general, systematic, and its framework is gradual from one part to another. This research falls into the category of research and development; more specifically it is research that uses a conceptual and controlled design in the hope of finding patterns, sequences, changes, or trends relating to something. The development model used as the basis for this study was adapted from the modified

ADDIE model (Ardi et al., 2024). Specifically, the ADDIE model consists of five phases: analyze, design, develop, implement, and evaluate (Li & Abidin, 2024).

The outline of this research development procedure is presented in the figure of the ADDIE model development procedure as follows:



The ADDIE model diagram in the figure above shows a continuous development process. The stages are interrelated. However, it does not rule out further development in the future if the resulting product needs further development. The model involves the development stages of the model with five steps/phases of development including: Analysis, Design, Development or Production, Implementation or Delivery and Evaluations.

(Maydiantoro, 2019) mentions that there are several stages of the ADDIE development research model, namely:

1. Analysis

In the ADDIE development research model, the first stage is to analyze the need for new product development (models, methods, media, teaching materials) and analyze the feasibility and requirements for product development. The development of a product can be initiated by a problem in an existing / applied product. Problems can arise and occur because current or available products are not relevant to the needs of the target, learning environment, technology, characteristics of students and so on.

2. Design

The design activity in the ADDIE development research model is a systematic process that starts from designing the concept and content in the product. The design is written for each product content. Instructions for applying the design or making the product are written clearly and in detail. At this stage the product design is still conceptual and will underlie the development process in the next stage.

3. Development

Development in the ADDIE development research model contains the realization of the product design that was previously made. In the previous stage, a conceptual framework for implementing a new product was developed. The conceptual framework is then realized into a product that is ready to be implemented. At this stage it is also necessary to make instruments to measure product performance.

4. Implementation

Product implementation in the ADDIE development research model is intended to obtain feedback on the product created/developed. Initial feedback (initial evaluation) can be obtained by asking questions related to product development objectives. Implementation is carried out in reference to the product design that has been made.

5. Evaluation

The evaluation stage in the ADDIE model development research is carried out to provide feedback to product users, so that revisions are made according to the evaluation results or

needs that cannot be met by the product. The ultimate goal of evaluation is to measure the achievement of development goals.

The study utilized a purposive sampling technique to ensure the selected sample met specific criteria relevant to the research focus. The sample included 250 public high school students aged 15–19 years in Sungai Penuh City, identified as being at risk of alexithymia. This age group was chosen based on prevalence data indicating vulnerability to alexithymia. Ethical principles were adhered to by obtaining consent from the participants or their guardians. In addition to students, the study also involved validators, including experts in counseling, linguists, university lecturers, and experienced counselors, selected based on their expertise to ensure the feasibility and relevance of the model.

The research instrument employed was the Toronto Alexithymia Scale (TAS-20), designed to measure alexithymia across three dimensions: Difficulty Identifying Feelings (DIF), Difficulty Describing Feelings (DDF), and Externally Oriented Thinking (EOT). The instrument, translated into clear and accurate Bahasa Indonesia, comprises 20 items rated on a Likert scale with five response options ranging from "very suitable" to "very unsuitable." Validity testing of the instrument was conducted on 40 respondents, revealing 17 valid items with a Pearson correlation above the *r*-table value of 0.361. Reliability analysis using Cronbach's Alpha yielded a coefficient of 0.735, indicating high reliability.

Data analysis followed a structured approach aligned with development research. In the needs analysis stage, data from the TAS-20 and supporting literature were analyzed using descriptive statistics, including mean, median, standard deviation, and frequency distribution, to profile alexithymia levels among students. For instance, a mean score of 50–70 with a standard deviation of ± 10 suggests moderate alexithymia tendencies. The second stage involved designing a hypothetical model for online counseling services, integrating mindfulness-based cognitive therapy (MBCT) elements like mindfulness practice, emotion management, and cognitive restructuring. This model was tailored to the characteristics and needs of the students.

In the development stage, the model was refined through self-evaluation, Focus Group Discussions (FGDs) with experts, and validation by five experts (three in counseling and two in information technology). Validation assessed construct, relevance, and practicality, with models scoring $\geq 85\%$ agreement deemed feasible. Practicality testing further refined the model through feedback from counselors and research subjects.

Finally, in the implementation stage, the model's effectiveness was tested using a single-subject experimental design (A-B). Data collection involved repeated observations before (baseline/A) and during intervention (B). For example, a decrease in a student's alexithymia score from 65 (baseline) to 50 (intervention) indicates positive intervention outcomes. Effectiveness was evaluated using metrics such as the Percentage of Non-Overlapping Data (PND), with values $\geq 70\%$ considered effective. This structured approach, underpinned by rigorous validity and reliability testing, ensures that the developed model is robust, evidence-based, and capable of effectively reducing alexithymia in students.

Results and Discussion

Data collection techniques are the most important step in conducting research, because the main aim of research is to obtain data (Sugiyono., 2018). The assessment instruments used in this research are assessment scales, questionnaires and interviews. The scale is used to assess the performance of the research product, questionnaires are used to determine the condition of alexithymia in students and interviews are used to obtain direct information regarding the overall assessment of the product for things that are not included in the scale in the design stage of the model being developed.

The product in this development research is an internet model (web-based) that can be accessed using the internet. The media developed is in the form of instructions for using a counseling model that uses mindfulness-based cognitive therapy (MBCT) techniques. In the media development process, it was designed to follow the steps in developing the ADDIE model proposed by Robert Maribe Branch. This is because the ADDIE model uses general, systematic basics, and its framework is gradual from one part to another. This research uses the ADDIE development model design which has been modified according to research needs and consists of analysis, design,

development, implementation and evaluation stages. In this section, the results of the research based on these five stages will be presented.

The analysis stage in this research is based on the rationale for the need to develop an online counseling model to reduce alexithymia in students. This process is carried out by studying theory, previous research and preliminary research (pleminary research) on students' alexithymia conditions. The pleminary research process involves research targets in Senior High Schools (SMA) throughout Sungai Banyak City by collecting data from administering the Student Alexithymia Scale instrument, analyzing the results of data collection, elaborating on the data so as to obtain a profile of students' alexithymia conditions and determining the research subjects that will be given. online counseling intervention using a mindfulness-based cognitive therapy (MBCT) approach. Meanwhile, theoretical studies and previous research were carried out by collecting theories related to student alexithymia intervention using the mindfulness-based cognitive therapy (MBCT) approach via internet/online media.

Analysis of the profile of alexithymia conditions experienced by students is the basis for identifying, planning strategies and obtaining interventions that will be integrated into the online counseling model. The student's alexithymia profile obtained is also an indicator in determining the focus and direction of intervention using a counseling approach.

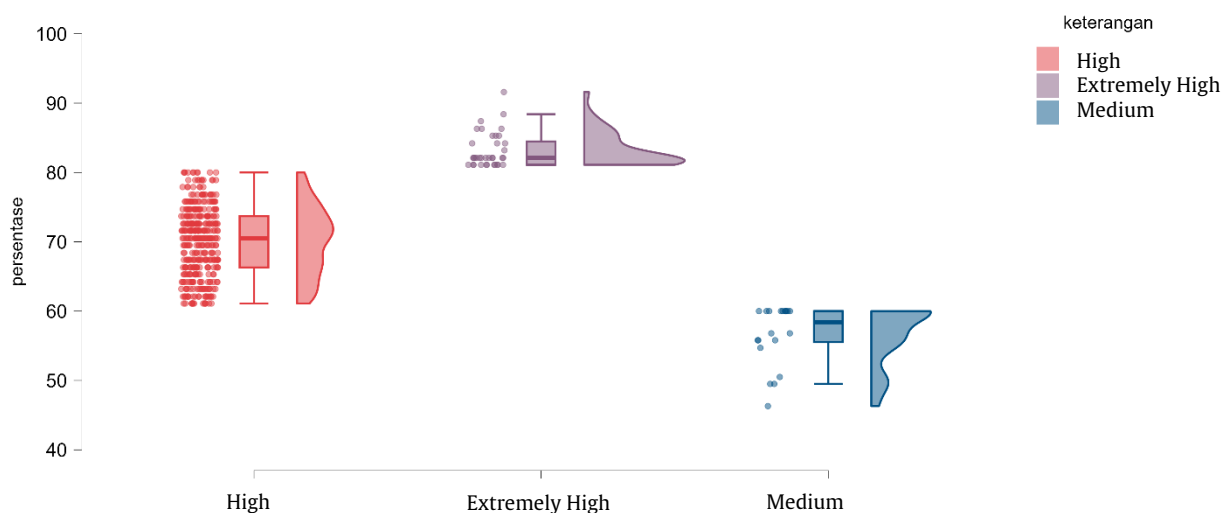


Figure 1. Profile of Student's Alexithymia

Based on the results of field data collection that has been carried out, empirical facts have been obtained that in general the average level of student alexithymia is 70.6% of students. The data also revealed that 83.3% on average of respondents (36 out of 437 respondents) experienced very high levels of alexithymia, 70.1% on average of respondents (381 of 437 respondents) experienced very high levels of alexithymia. high level of alexithymia, and 56.6% on average (20 of 437 respondents) experienced a fairly high level of alexithymia. This indicates that the majority of respondents experienced problems in expressing emotions. The alexithymia figure shows that there are physical and behavioral reactions thoughts and emotions that appear in the form of tension so that in the end they will disrupt the learning process.

If analyzed based on sub-variables, it can be analyzed more deeply into the condition of alexithymia in students. In the Difficulty Identifying Feeling (DIF) indicator, students are generally at a high level/condition of alexithymia (73.9%), where in this condition respondents show that they often feel confused about the emotions they feel. In the Difficulty Describing Feeling (DDF) indicator, generally there is a high level/condition of alexithymia (69.0%), where in this indicator respondents often find it difficult to use the right words to express their feelings. In the Externally Oriented Thinking (EOT) indicator, in general students are at a high level/condition of alexithymia (68.4%), where in this indicator respondents prefer to let something happen rather than find out the cause.

Indicator	Mean	Category
<i>Difficulty Identifying Feeling (DIF)</i>	73,9%	High
<i>Difficulty Describing Feeling (DDF)</i>	69,0%	High
<i>Externally Oriented Thinking (EOT)</i>	68,4%	High

Conclusion

The problem of alexithymia in teenagers is a serious problem and needs immediate treatment. This research aims to develop an online counseling model based on Mindfulness-Based Cognitive Therapy (MBCT) which is expected to be able to reduce this condition. This model utilizes web-based platform technology to provide more accessible and effective interventions. Through a combination of MBCT and online counseling, this research seeks to create innovative solutions that are holistic and practical to support adolescent mental health, especially in overcoming psychological disorders such as alexithymia.

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