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# Android-Based Anticipatory Guidance Application for Students in Online Learning

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**Abstract**--Online learning causes student anxiety during the Covid-19 pandemic. Anticipatory guidance is a form of guidance provided for students to anticipate the occurrence of anxiety. However, the problem is that students in Indonesia consider learning assignments to be the cause of anxiety during online learning. This makes the reason that the importance of guidance for students in preventing anxiety so that online learning can be carried out effectively. The purpose of this research is to build an android-based application to anticipate the occurrence of anxiety for students that is easily accessible and understandable. This research method uses Research & Development (R&D). The subjects in this study were material experts, media experts, and students. The data collection tool used is in the form of a validation sheet to obtain an assessment of the validator or experts. The results show that after design validation by the three material experts an average score of 84.8 was very good and the validation of the three media experts obtained an average score of 72.14 in the good category. Based on the ten student opinions regarding anticipatory guidance on anxiety using an Android-based application, the score was very good in terms of appearance, ease of use of the application and material content related to material clarity, and language. Of the ten students' opinions regarding the android-based application, it gave a proper value to be used as anticipatory guidance on student anxiety during online learning during the COVID-19 pandemic.

**Keywords**--anxiety, anticipatory guidance, android based app.

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## Introduction

Student problems related to social anxiety become a major factor causing anxiety, where student anxiety is seen in academic activities, namely task completion, lecture process, implementation of practicum, report generation, and completion of the final project as a graduation requirement to face Drop Out (Naa, Komalasari, & Wahyuni, 2016). Most health students reported mental health problems such as anxiety, depression, stress, and other emotional states, where moderate and severe anxiety was experienced by some health students who carried out home education by studying online during the COVID-19 pandemic (Purnama, Susaldi, Mukhlida, Maulida, & Purwati, 2021). Students have different responses in facing a variety of demands that each student must be able to achieve (Maulina, 2019).

Active learning can increase and decrease student anxiety depending on how active learning is applied (Cooper, Downing, & Brownell, 2018). Online learning causes student anxiety, one of the causes is learning assignments (Livana, Mubin, & Basthomi, 2020). Some research results state that the factors that affect anxiety are negative feelings, learning effectiveness, negative emotions and persistence in learning, where students who drop out of school show higher levels of anxiety than persistent students (Lakhal, Khechine, & Mukamurera, 2021). Other studies that affect anxiety include academic delays, the impact of daily life, and social support (Biswas & Biswas, 2021); quantity and relative weight of assessments on academic and metacognitive performance (Silaj, Schwartz, Siegel, & Castel, 2021); gender (Chien, Lin, Hsiao, Chang, & Chan, 2021); the first year of college and excessive internet use (Rahman, Saiful Islam, Mamun, Moonajilin, & Yi, 2020); marital status and ancestry (Perz, Lang, & Harrington, 2020); poor academic performance is more prone to anxiety (Lee, Jeong, & Kim, 2021); excessive use of mobile phones during learning and gender (Krylova et al., 2020); age, gender (Coakley, Le, Silva, & Wilks, 2021); gender (Pandey et al., 2021); shame and self-esteem (Wu, Qi, & Zhen, 2021); demographics, gadgets, internet (Cleofas & Rocha, 2021); genetics, personality, and life events (Marie, SaadAdeen, & Battat, 2020). Further findings show that victims of childhood trauma, economic factors, alcohol and drug dependence, disadvantage, feelings of inadequacy cause anxiety, while social factors do not cause anxiety (Downey & Crummy, 2022).

Most students with moderate or severe mental health symptoms have never used mental health services. So it is important to proactively reach out to students, identify students who are at risk of mental health problems, and provide accessible care (Lee, Jeong, & Kim, 2021). The anxiety level of nursing students is higher than the anxiety level of medical students in pre-clinical practice (Romo-Barrientos et al., 2020).

Previous research has argued that concerns about the use of technology in online assessment, exploring students' perspectives on online assessment, partly from students' resistance to online assessment is due to difficulties in breaking past habits. They are used to paper-based tests and do not feel ready to proceed to online exams; they have an inherent distrust for technology. They believe that the newer generation may be more receptive to online assessments as they are more

familiar with technology (Khan & Khan, 2019). The five dimension scales of students' distance learning attitudes are: attending online lectures, communicating online with supervisors, online collaboration with colleagues, finding access and studying educational materials, and doing assignments and homework online (Tzafilkou, Perifanou, & Economides, 2021). Based on these findings, students need guidance and counseling services as a companion in completing the learning process.

Guidance and counseling services help students to develop, be independent and able to solve their own problems (Jarkawi, Anwar, Fauzi, & Madiyah, 2017). There is a relationship between anxiety, positive and negative academic emotions, independent learning, and performance. In addition, the data highlight important emotional differences between men and women that have the potential to influence anxiety retention (Pelch, 2018). Effective use of online resources designed and based on language as a linguistic technique to reduce student anxiety (Zhang, 2019). Overcoming cognitive anxiety through game-based learning supported by mobile intelligence technology has encouraged the renewal of teaching and learning models. Smartphone-based Question-Observation-Doing-Explanation (QODE) model (Yang, Zhang, Kong, Wang, & Hong, 2021). Based on this background, it is necessary to build an Android-based anticipatory guidance application for anxiety to anticipate the occurrence of anxiety for students which is easily accessible and understood as anticipatory guidance for anxiety.

## **Method**

In an effort to anticipate student anxiety in online learning to produce android-based applications, researchers used Research & Development (R&D) by adapting the Borg & Gall (1983) model in Gustiani (2019), namely 1) Needs Analysis; 2) Collecting data; 3) Product Design; 4) Design Validation; 5) Design Revision, 6) Product Trial. The object of this research is an android-based application. While the subjects in the research that the researchers took consisted of 3 material experts and 3 media experts and 10 students. The application is tested by two experts or experts, namely media experts and material experts. The feasibility of an android-based application for students as one of the educational learning media is obtained from an expert assessment using an application feasibility instrument. This research has been declared ethically worthy by the Health Ethics Commission of the Kendal School of Health Sciences with number no. 33/KEPK/STIKESKendal/XII/2021.

## **Results**

The results of this study have designed an Android-based anticipatory guidance application for anxiety that has been tested for product feasibility. The following are the results of the research that has been carried out:

### **Results of designing and making anticipatory guidance anxiety applications**

Anxiety anticipatory guidance application is designed as a guide to prevent anxiety for students in preventing anxiety. Anxiety anticipatory guidance

application consists of six frames. The Main Frame contains the Title, Greeting "Welcome to Setting" and Instructions for Filling in and Starting the Application.

1. The 1st frame contains the "Screening" menu to detect potential anxiety that occurs in students in online learning by using 7 questions related to anxiety from the DASS-21 questionnaire.
2. The second frame contains anxiety material which consists of a choice of material menus that include definitions, anxiety-causing factors, anxiety responses, coping sources, coping mechanisms, which have been compiled according to the concept of the stress adaptation model of Stuart (2013).
3. In the 3rd frame is the "Anticipatory Menu" which contains 3 guidelines that students can do in preventing and overcoming anxiety
4. The 4th frame is the "Survey" menu, students are asked to fill out a survey about the level of student knowledge in preventing anxiety.
5. The 5th frame is the "My Account" menu which functions to create an account to log in to this application, but not all of them have to create an account in order to use this application.
6. The 6th frame contains the "Chat counselor" menu whose function is to facilitate students to communicate with the counselor if there are problems when filling out the survey or they still do not understand the material listed on the menu.

To end and exit the application, click the back sign on the mobile screen. The anticipatory guidance anxiety application interface design is made simple so that students do not experience difficulties in using it. The design of the anticipatory guidance anxiety application can be seen in the image below.

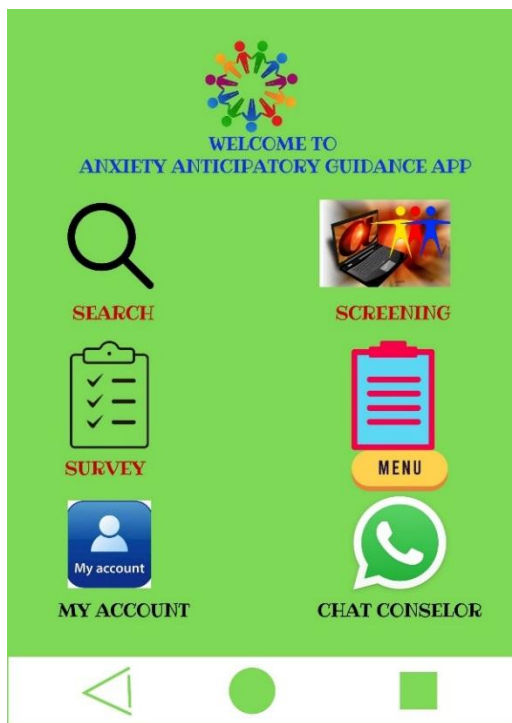


Figure 1. Anxiety Anticipatory Guidance App

### Anticipatory guidance anxiety application design validation

Before the application media is used en masse, application validation has been carried out to see the feasibility of the application. Validation is carried out by experts called validators to evaluate and assess the quality of the application both in terms of materials and media that have been designed. Anxiety anticipatory guidance application validation was carried out by 3 experts on anxiety material and 3 media experts in the field of information technology. At this stage, material experts assess the quality of appropriate anxiety material, language quality, illustration or picture quality, and quiz questions or questions. Meanwhile, media experts evaluate application efficiency, graphic quality, animation or image quality, navigation quality, and icon quality. Assessment of applications by material experts and media experts was carried out by filling out questionnaires and assessment sheets to assess the feasibility of media for students in preventing anxiety. Validation involving experts is carried out to produce evaluations and suggestions in product development. The results of the media expert's assessment of the application of anticipatory guidance on anxiety are shown in table 1.

Table 1.

The Average Result of Assessment from All Media Experts (n=3)

Media expert	Value	Category
Media expert 1	75	Good
Media expert 2	83,5	Very good
Media expert 3	77,84	Good
Average	78,78	Good

Table 1 can be concluded from the assessment of the three experts that the application is good and feasible for field trials with revisions. The results of all aspects of the application media show an average value of 78.86 which is included in the Good category because it is in the range of values of 60-80. and declared "Eligible" or "Valid". Ratings with a good category on this application cannot be separated from revisions and input from media experts to improve the application to make it even better. From the assessment of the three media experts, of course there is a very good assessment.

Table 2.

The Average Result of Assessment from All Material Experts (n=3)

Average	Value	Category
Average	79,0	Good
Average	83,6	Very Good
Average	87,8	Very Good
Average	84,8	Very Good

Table 2 can be concluded from the assessment of the three experts that the application is very good and feasible for field trials with revisions. The overall results of the application material aspects show an average value of 84.8

including in the very good category because it is in the 80-100 value range. From the assessments of the three material experts, there are assessments that are already very good and some are less good, namely on the points of conformity of practice/test questions with basic competencies, suitability of language and pictures. Besides that, media experts suggested adding some material to students related to interventions that can be done to prevent anxiety.

### **Product Trial Against students**

Based on the results of product trials on 10 students, data on responses to the application of anticipatory guidance on anxiety were obtained as shown in table 3.

Table 3.  
Average Student Response Results (n=10)

No	Respondent	Value	Category
1	Respondent 1	84,9	Very Good
2	Respondent 2	81,5	Very Good
3	Respondent 3	81,8	Very Good
4	Respondent 4	81,7	Very Good
5	Respondent 5	74,2	Good
6	Respondent 6	70,8	Good
7	Respondent 7	88,5	Very Good
8	Respondent 8	81,1	Very Good
9	Respondent 9	79	Very Good
10	Respondent 10	79	Very Good
Avarage		72,14	Good

Table 3 shows that the majority of respondents gave an opinion on the application of anticipatory guidance on anxiety with very good categories in terms of appearance, application, ease of use, ease of choosing menus, clarity of material, clarity of language.

### **Discussion**

Respondents' results showed that the majority of respondents gave opinions on personal psychoeducational applications with very good categories in terms of appearance, application, ease of use, ease of choosing menus, clarity of material, clarity of language. Guidance and counseling services carried out by other researchers belonging to Kurniawan (2018) said that the guidance service had carried out a validity test, the results of which stated that the services provided were good enough so that they could be used as a reference where a guidance and counseling activity needed a preparation, implementation and an evaluation. The stages in the implementation of the guidance and counseling service program in tertiary institutions from start to finish can be gradually divided into planning stages, implementation stages, assessment stages, results analysis stages and follow-up stages where in each step these stages have a characteristic with working steps. continuous concrete with the next stage (Raharjeng & Chistiana, 2014).

Guidance and counseling services in tertiary institutions are an integral part of support for all educational activities and cover the entire purpose and function of guidance and counseling, while the services of a scope of guidance and counseling services include personal, social, career and personal guidance and counseling services. learning (Fiah, 2016). Related research belonging to Putri, Batubara and Hasanah (2020) says that the impact of counseling services in universities can be received benefits both for groups and individuals, where the results of group counseling services provided by counselors are responded to quite well and individual counseling is done face-to-face which is said to be more open and more effective because there are only two people, namely the client and the counselor. Another study belonging to Irawan (Irawan, 2017) also said that group guidance services were able to increase social interaction between students.

Counseling guidance is an integral part of the education system, which means that they influence each other or are symbiotic (Kurniawan N. A., 2020). Another related study belonging to Suryani (2018) says that guidance and counseling services are able to overcome a problem in choosing a major to college by providing understanding and knowledge related to the department and providing direction related to placing yourself in the right interests, talents and potential. Other researchers Wahyuni, Nurihsan and Yusuf (2018) said that counseling services in universities are more concerned with facilitating a student to be able to develop his potential or achieve a development in various aspects including emotional, physical, moral, spiritual, intellectual, personality and academic. a student and can increase the independence of students both in the implementation of teaching and learning activities and in managing themselves as a student.

The results of Nastiti and Habibah's research (2017) say that the most needed form of service in universities 77.4% of students think that services and counseling are needed in universities with 78.06% of students saying that they will take advantage of the guidance and counseling services available in universities. College. Arifin and Romadlon's research (2019) resulted in the design of an online-based counseling guidance system application using the UML model, besides that this study also produced an online counseling guidance model which provides facilities for assessing the work of counselors in providing services to counsees in which the assessment This later can be used as a benchmark for the level of success of the counselor in solving a problem experienced by the counselee they are facing.

## **Conclusion**

Anxiety anticipatory guidance application is the result of this study. This application has received eligibility approval from material experts, media experts and students as respondents. The material expert has stated the feasibility of the anxiety material, the quality of language, the quality of the illustrations or pictures, and the quality of the questions or quiz questions with a score of 84.8 which are included in the very good category. Media experts have conducted a feasibility assessment on the application efficiency side, graphic quality, animation or image quality, navigation quality, icon quality with an average value of 79.78 including in the good category. The results of data analysis from 10

respondents regarding student responses to the anticipatory guidance application for anxiety showed that the overall application in terms of appearance, ease of use of the application and material content related to material clarity, and language was very good. Seeing these results, the anxiety anticipatory guidance application is appropriate to be used as a medium for preventing anxiety in students during the covid-19 pandemic.

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