Developing pubertal guidance application media for mild intellectual disabled students at SLB Negeri 1 Pinrang

Astuti Reski Pratama
Bimbingan Konseling, Universitas Negeri Makassar
Email: astutireski3@gmail.com

Dr. Usman Bafadal, M.Si, Dr. Farida, S.Pd, M.Pd
Pendidikan Khusus, Universitas Negeri Makassar
Email: usmanbafadal@gmail.com
farida.aryani@unm.ac.id

Abstrak : Penelitian ini yakni untuk mengetahui (1) gambaran analisis media. (2) protipe media aplikasi bimbingan pubertas. (3) kevalidan dan dan kepraktisan media aplikasi bimbingan bagi siswa tunagrahita ringan, dibuat dalam bentuk aplikasi yang dirancang dengan menampilkan beberapa pembelajaran. Metode penelitian ini adalah penelitian dan pengembangan (*R&D)* tahapan penelitian Borg & Gall. Peneliti di sini mempergunakan pengumpulan data wawancara, angket, serta instrumen uji validasi. Hasil penelitian menunjukkan bahwa (1) gambaran kebutuhan media aplikasi bimbingan pubertas sangat dibutuhkan untuk guru dan siswa tunagrahita ringan untuk bimbingan masa pubertas (2) prototipe media aplikasi bimbingan pubertas yang dikembangkan berbentuk aplikasi android yang memiliki isi materi, video dan evaluasi. (3) kevalidan dan kepraktisan media aplikasi bimbingan pubertas melalui uji coba terbatas, berdasar pada uji coba ditetapkan valid serta praktis layak dipergunakan pada pembelajaran bimbingan pubertas pada siswa tunagrahita ringan.

Kata Kunci : Media aplikasi; bimbingan; pubertas; tunagrahita ringan

Abstract: This research is aimed to find out (1) the description of media analysis. (2) the prototype of pubertal guidance application media. (3) the validity and practicality of the guidance application media for mild intellectual disabled students, made in the form of an application designed to display several lessons. This research method is a research and development (R&D), stage of research by Borg & Gall. Researchers applied interview data collection, questionnaires, and validation test instruments. The results showed that (1) an overview of the media needs for pubertal guidance applications was required for teachers and students with mild intellectual disability for puberty guidance (2) a prototype of pubertal guidance application media was developed in the form of an android application contained material contents, videos, and evaluations (3) based on a test, the validity and the practicality of the pubertal guidance application was valid and practical, applicable on the pubertal guidance class for mild intellectual disability students.

Keywords: Application media; guidance; puberty; intellectual disability

INTRODUCTION

The result of interviews with the homeroom teacher, Mr Yusuf Maksum at SLB Negeri 1 Pinrang on August 24th, 2020, obtained information that grade IX students showed inappropriate behaviour such as showing their private parts in front of their teachers or friends and touching the opposite sex. The result of student assessment showed that they were still in the stage of self-control and were still unstable in attitude and behaviour. The analysis skill of those having an intellectual disability also had problems in adjusting, such as interpreting and understanding social norms, so that mild intellectual disabled students often carry out behaviours that are contrary to norms (Oktaviani, 2018); (Ramiati & Andini, 2019). Researchers considered it important to develop learning media for puberty guidance applications to provide understanding to students with mild intellectual disabilities.

The development of the application media chosen by the researcher was an android application related to puberty guidance for mild intellectual disabled students and was combined with games or quizzes created according to the researchers and learning needs for students and could be used as an attractive learning medium for mild intellectual disabled students. Tarigan & Siagian (2015) states in their research that learning media should be based on integral elements in the learning system regarding puberty guidance for mild intellectual disabled students in conveying messages and to stimulate the will, attention, feelings, and thoughts of students to be motivated to learn and produce guidance media in the form of android applications which are effective and efficient when delivering material.

Yaumi (2018) explains that media are all things that convey information to the recipient which comes from the source of information. In other words, media are intermediaries that convey messages/ information through the source of the message to the recipient. Ashumi (2017); Aghni, (2018) suggests there are two types of media

in a narrow and broad sense. Media in a narrow sense consists of photos, graphics, electronic and mechanical devices used in capturing, processing, and delivering information, while the media in a broad sense are activities that can create a situation that allows students to learn new attitudes, skills, and knowledge.

Based on the description, it is found that media are any kind of forms and channels of delivering information or messages to recipients from sources of information, which can stimulate enthusiasm, stimulate thoughts, will, and attention from students so that they can learn attitudes, skills, and knowledge that are associated with the objectives of delivering the information.

Prasetiawan & Alhadi (2018) explains that guidance media is a piece of hardware or software whose function is a supporting tool for guidance service activities. Guidance media are all things used in conveying messages, which can provide stimulation to feelings, thoughts, desires, and attention so that they can stimulate controlled learning activities.

Guidance according to Adi Purnomo, P. (2016) is an activity to assist someone, to carry out various efforts for someone who is helped to understand themselves so that they can direct themselves and take appropriate action following environmental conditions and school demands to remove the barriers. Guidance can be interpreted as an effort to provide individuals with experience, knowledge, and information related to themselves. (Evi, 2020) Guidance has several purposes so that individuals can:
a. Plan study completion activities
b. Grow all the strengths and potential optimally
c. Adapt to the environment of education, work, and society
d. Overcome the difficulties and obstacles encountered in the study, adapting to the educational, work, and community environment.

Based on the opinions above, it can be concluded that guidance is a continuous provision of assistance to students to

recognize themselves and their environment so that they can determine their future well.

Santrock (Maran, DY (2018).) states that puberty is a stage where there is rapid growth in physical development, this situation involves bodily and hormonal changes, which especially occur in early adolescence. Santrock's statement above is in line with the statement (Hidayati & Mastuti, 2012) who says that puberty originates from the Latin word meaning "age of maturity," the word refers to physical changes rather than behavioural changes that occur when a person is sexually mature and can produce offspring, but there are also more specific changes seen between girls and boys.

According to the experts above, puberty is a period of sexual maturity that happened during adolescence accompanied by rapid physical development and changes and each individual starts at different ages in individuals. (Irianto, HA, 2019) argues that applications are ready-made programs or a program designed to carry out a certain function. Applications are also defined as the use of a concept as in a computer program or a subject matter that is formed to help humans carry out a particular task.

According to Satyaputra (Kuswanto & Radiansah, 2018), Android is a form of pro-cessing system on mobile phones and tablets. The form of activity is also sampled as a 'bridge' between the device and the user, then the user can connect to the device and execute applications that are ready on the device.

(Arifianto, 2011) explains Android is a mobile device in the operating system for smartphones that use Linux. (Hermawan S, 2011) argues Android is an operating system (OS) that has grown while developing other OS lately. Android itself is more focused on smartphones and tablets. Through this understanding, it is obtained that Android is a Linux-based OS that continues to be developed, especially for smartphones and tablets. Through the advantages of this technology, the learning process will become more attractive and teachers will be more innovative in using technology so that students' ability to absorb the learning

materials will be better.

Furthermore, (Santoso, S. et al. 2019) defines Android as a Linux-based operating system used by mobile devices such as smartphones and tablets. According to Hidayah S, (2017) states that Adobe Flash CS6 is one of the applications for making interactive learning tools that are easy and can be used by many people. The advantage of Adobe Flash CS6 is that it has excess features and can integrate images, sounds and animations simultaneously. Adobe Flash CS6 also has a high-extension feature. The media can be stored on a smartphone to make it easily accessed.

Intellectually disabled students are individuals who substantially have intelligence below normal, intelligence with an IQ score equal to or lower than 70 (Wiguna, A., 2019).

According to (Putri, RE, & Iswari, M. (2018) "Intellectual disability is a weak intellectual function, that is an IQ of 70 and below based on intelligence tests, lack of adaptive behaviour; and occurs in the period of growth especially between the period of conception to the age of 18 years." Furthermore, the American Psychiatric Association (APA, 2013: 33) suggests that "intellectual disorders (intellectual development disorders) are obstacles that arise during the growth stage, which is an inhibition of the role of intellectual and adaptive roles in the area of social concepts and the implementation of self-guidance that is lacking."

Furthermore, (Heward, W, Morgan, 2017) expresses the weakness of intelligence. This weakness proves relevant barriers in both intellectual function and adaptive function. This disability occurs before the age of 18 years.

The classification of intellectual disability is considered important for the needs of educational services, especially in teaching and learning methods in the classroom (Puspitasari, T., Susilo, B., & Coastera, FF, 2016). The classification experienced by intellectually disabled students also varies. The classification varies

through subjects and changes in views on the presence of intellectually disabled students.

(Soemantri, 2014) suggests that the classification of intellectually disabled children is as follows:

1. Mild intellectual disability. Children are also called morons or debil. This group has an IQ between 68-52. They can still learn to read, write, and do simple arithmetic.
2. Moderate intellectual disability. Children with this intellectual disability are also known as an imbecile. This group has an IQ of 51-36. They can be taught to take care of themselves from threats such as avoiding fires, sheltering from the rain, and so on.
3. Severe intellectual disability. Children with this intellectual disability are often called idiots. This group can be further distinguished between children with severe and very severe intellectual disabilities. Severe intellectual disability has an IQ between 32-20, very severe intellectual disability (profound) has an IQ below 19. Severely intellectual disabled children need help such as total care in terms of dressing, bathing, eating and others. They even need protection from danger during their lifetime.

Mild intellectual disability is also called moron or debil. This group, according to Binet, has an IQ of around 52-68, but according to the Weschler Scale (WISCH), it has an IQ of 69-55. They are also able to learn to read, write, and do simple arithmetic (Rosita, Y, 2019). Furthermore, Effendi (2008: 90) states that "debilitated children are capable of learning although cannot carry out regular school programs, they can have potentials that can be improved by special education, even though the results are not satisfactory."

Intellectual disability, according to AAIDD, the term Intellectual Disabilities (ID) is previously referred to as Mental Retardation (MR). This is stated by the American Association on Intellectual and Developmental Disabilities (AAIDD) through Schalock et al., 2010 (Hallahan & Kauffman, 2011) "characterized by significant limitation both in intellectual functioning and in adaptive behaviour as expressed in conceptual, social, and practical adaptive skills.

Puspitasari, T., Susilo, B., & Coastera, FF (2016) reveals that there are several characteristics in intellectually disabled children as follows:

1) Intelligence
Learning performance is very lacking. They learn more with the rote-learning rather than with understanding.

2) Social
They cannot take care of, look after and guide themselves. During childhood, they must be helped continuously, kept away from problems and monitored while playing with other children.

3) Other mental functions.
Facing difficulty in focusing attention, forgetfulness and difficulty rephrasing and understanding. They avoid thinking, are not able to make associations and find it difficult to make new creations.

4) Drive and emotion
The growth and emotional impulses of intellectually disabled children vary according to their respective levels of intellectual disability.

5) Organism
The system and the role of organisms in intellectually disabled children are generally more difficult than normal children. They can walk and talk at an older age than normal children.

Furthermore, (Maulidiyah, FN (2020) argues that:

The characteristics of mild intellectual disabled children are that they can also learn to read, write, and do simple arithmetic. Their abilities grow by progressing between half and three-quarters of a normal child's progress and ending at a young age. They can socialize and learn tasks that only require semi-killed. Their intelligence only covers the age level of normal children between 9 and 12 years. The problems of students with mild Intellectual disability involve several problems such as learning activities, adjustment, speech impediments, language and personality

problems (Kesumawati, SA, & Damanik, SA (2019) Based on the opinion, it can generally be explained as follows:

1) Study problems

Learning activity is directly related to the capacity of intelligence. In the various activities carried out, at least it takes the ability to remember and the power to understand, as well as the power to look for cause-and-effect relationships.

2) Adjustment problems

Intellectually disabled students experience difficulties in interpreting and understanding environmental norms, therefore intellectually disabled students often act contrary to the norms of the environment where they live.

Adaptive behaviour is strongly influenced by society and its environment. For people and environments that are technologically sophisticated, where the developmental period of puberty is essential and required, children who have low intelligence such as intellectually disabled will have difficulty adjusting both individually and socially.

Fauziah (2017); Sitepu, TJ (2017) explains that sexual development for intellectually disabled children appears since infancy because their physical development is no different from normal children.

There are several obstacles experienced by intellectually disabled children during their puberty stage in several aspects of life. including emotional, social, and academic abilities. However, intellectually disabled children are the same or almost the same as normal children in general in terms of physical development. According to (Soemantri, 2014), the development of intellectually disabled children is almost the same as or the same as normal children, but some are far behind, compared to normal children.

Several previous studies related to the development of media for intellectually disabled adolescents during the puberty phase were still minimally developed. Previous research revealed cases of sexual behaviour problems and the relationship between device use, but it did not develop guidance media that could be used as a problem solving, and therefore this research has an element of novelty and certainly, relevant data is required in developing these new products.

RESEARCH METHODS

This research study used Research and Development procedures. According to Sukmadinata (2013), This is a step or process to improve an existing product or develop a new product that can be validated. This development model is (Borg & Gall). The stages of Borg and Gall development are the data collection stage, the planning stage, the product development stage, and the expert validation test stage.

This research was conducted at SLB Negeri 1 Pinrang. The subjects of this research were 3 students and 2 validators. Data collection techniques used in this study were interviews, questionnaires and validation instruments.

RESULTS AND DISCUSSION

The results of the development of android-based puberty guidance application media for mild intellectual disabled students that were previously designed then underwent expert validation and practical validation carried. The scale used was the validation questionnaire and the limited trial, the rating scale with a choice of 1-5.

Table 1. Media content experts for pubertal guidance application

No.	Rated aspect	Validator Rating	
		V1	V2
1.	Conformity of learning objectives with KI and KD	5	4
2.	Material equipment	4	4
3.	The propriety of the material with the learning objectives	4	5
4.	Clarity of the selected material	4	4
5.	Ease of understanding the material	5	4
6.	Systematics in delivering material	4	4
7.	The clarity of examples	4	4
8.	The completeness of questions	4	4
9.	The propriety of the evaluation with the learning objectives	5	5
10.	The propriety of the evaluation with the materials	4	5
11.	Providing feedback on evaluation	4	4
	Amount	4.2	4.2
	F (Total score)	4.2	

Table 4.3 shows that the obtained total score from both validators is 4.2. It can be calculated the percentage of the validator rating scale level with a total score of 4.2 with a weight criterion of 1 for each choice and the highest weight is 5 after being converted to a scale. The rating level is 84% where includes the range of 81-100 or is categorized as very valid.

Table 2. Media experts for puberty guidance applications by learning media experts

No.	Rated aspect	Validator Rating	
		V2	V1
1.	The clarity of the application title	5	5
2.	The ease of the application title in providing an overview of the application	5	5
3.	The clarity of the operating guide	4	5
4.	The easiness operation guide	4	4
5.	The consistency of layout proportions (text and image layout)	4	4
6.	The colour used on the background page is comfortable to see	5	5
7.	The background selection accuracy	5	5
8.	Colour consistency	4	5
9.	The accuracy of choosing the type of presented text and fonts	4	4
10.	The accuracy of the selection of the size of the presented text	5	4
11.	The consistency of text usage	4	4
12.	Easiness to understand the menu	4	5
13.	The consistency of using icons as navigation buttons	4	4
14.	The suitability of the animation used in the materials	4	4
15.	The propriety of the image used in the materials	4	4
16.	The accuracy of voice/audio presentation	4	4
17.	Sound/audio quality	4	4
18.	Video display quality	4	4

19.	The suitability of the use of sentences with the intellectual level of students	4	4
20.	Exit confirmation from the app	4	4
21.	Clarity of application end message	4	4
22.	Clarity of application usage instructions	4	4
23.	Exit confirmation from the app	4	4
24.	Clarity of the final message	4	4
25.	Presentation of materials using videos/animations and interesting narration	4	4
26.	Presentation of materials using media in moderation	4	4
27.	The use of words, images, sounds, and animations related to each other	4	4
	Amount	4.1	4.2
	F (Mean score gain)	4.1	

Table 4.2 shows that the total score The results of the assessment of the teacher's response to the pubertal guidance application media on a limited trial were conducted on teachers who were asked to assess the developed puberty guidance application media. The limited trial assessment questionnaire related to the media display aspect of the puberty guidance application and the learning aspect consisted of 18 questions. The results of the recapitulation of the assessment scores from the limited trial are: obtained from the two validators is 4.1. It can be calculated the percentage of the validator rating scale with a total score of 4.1 with the weight criteria of each choice 1 and the highest weight being 5. After being converted, the rating scale is 82% where includes the range of 81-100 or categorized as very valid. Therefore, in this category, the pubertal guidance application media that the researchers have developed are suitable for use.

Table 3. Teacher's Response Results

No	Rated aspect	Rating result	
		G1	G2
1.	Conformity of learning objectives with KI and KD	4	4
2.	Material equipment	4	5
3.	The suitability of the material with the learning objectives	4	5
4.	Puberty guidance application media and complete instructions for use	5	5
5.	Instructions for using the pubertal guidance application media are easy to understand	5	5
6.	Puberty guidance application media helps the process of students increasing knowledge about puberty	4	5
7.	The language is simple, easy to understand, following Indonesian language rules	4	5
8.	The writing on the pubertal guidance application media is clear	4	5
9.	The easiness of using puberty guidance application media	5	5

10.	Images and text are proportional	4	5
11.	Background and image are well-contrasted	5	5
12.	The images presented are clear and not blurry	5	5
13.	The images presented are easy to understand and interesting	4	5
14.	The suitability of the animation used in the materials	4	5
15.	The suitability of the images used in the materials	5	5
16.	Accuracy of voice/audio presentation	5	4
17.	Sound/audio quality	5	5

Based on these data, the total score obtained from the validator is 4.6, so the percentage of the rating scale can be calculated with a total score of 4.6 with the weight criteria of each option being 1 and the highest weight being 5. After being converted, the rating scale is 92%, which includes a range of 81-100 or categorized as very valid. Therefore, in this category, the pubertal guidance application media that the researchers have developed are suitable for use.

The results of student responses to puberty guidance application media which aims to provide understanding to mild intellectual disabled students about puberty, gave a very good response when given learning media. Before providing learning media, the teacher first explained and provided understanding to students about puberty. With puberty learning, students could find out how to take an attitude when experiencing menstruation and could understand the physical changes experienced by both girls and boys.

When the application media was given to three students, the responses given by two people were good. When the researcher gave explanations repeatedly to mild intellectual disabled students, they could understand the content of the video that was applied about what others were not allowed to touch and allowed to touch or about puberty. According to (Hidayah et al., 2017), she states that Adobe Flash CS6 is an application for making interactive learning media that is easy and can be used by everyone.

When using the pubertal guidance application media, students felt happy and enthusiastic because there was a learning video in the application, but there was also one student who did not understand to use the application media by giving a confused response. It is necessary to have repeated learning for mild intellectual disabled students so that students can understand the efforts to provide media as a tool in the learning process during puberty.

An instrument is said to be valid if the instrument can measure a questionnaire response to experts. The validity used is content validity and construct validity by conducting expert input to assess the feasibility of puberty guidance application media (Zamzania & Aristia, 2018).

Based on the positive response given by mild intellectual disabled students to the application media for puberty guidance, the application is categorized as practical or the developed learning media is suitable for use in teaching and learning activities.

CONCLUSIONS AND SUGGESTIONS

The conclusion of the needs analysis conducted at SLB Negeri 1 Pinrang showed that teachers and students need a media Application for pubertal guidance for mild intellectual disabled students. The prototype of puberty guidance application media is carried out from the planning stage of product development, initial product development to product validity testing. The pubertal guidance application media already has a good level of accuracy, feasibility, and usability to be given and used by teachers and students as users. The results of validity and practicality of puberty guidance. This application media havemeet the criteria of validity and practicality obtained from teacher responses 92%, media experts 82%, and material experts 84%, categorized as very valid and very practical to use based on positive responses from media experts, material experts, and

teacher responses.

Suggestion refers to the results of research that has been carried out and has been declared suitable for use. Therefore, it is hoped that this pubertal guidance application can provide benefits for many parties such as scientific development. Besides, it can also be used as suggestions for product utilization for institutional development and further research.

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