



UTILIZATION OF THE LEARNING CHATBOT SAHABAT CURHAT (SACU) IN OVERCOMING ADOLESCENT MENTAL HEALTH PROBLEMS

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Abstract The current trend of making learning chatbots stimulates the creativity of educators to overcome the learning problems that many teenagers experience today, one of which is the creation of learning chatbots to address adolescent mental health. Currently, many adolescents are experiencing mental problems, it is estimated that there are more than 1 in 7 adolescents aged 10-19 years in the world living with a diagnosis of mental disorders. The purpose of this study is to describe the use of chatbot friends to confide in to overcome mental health problems of adolescents. The research methodology used is qualitative by conducting text analysis on chatbot content and chatbot user comments. The results showed that many teenagers who had mental health problems needed a place to express their feelings. Talking to chatbots is an alternative because they can comfortably express their feelings. Especially during the pandemic, this chatbot application is considered very helpful in overcoming the problems of teenagers who have mental health problems

Keywords: Chatbot, Sahabat Curhat (SaCu), Mental Health Problems, Adolescent

Background

Making chatbots from computer programs that imitate human conversations with artificial intelligence technology is currently widely used in learning (Sarosa et al, 2020). Digital learning with intelligent guidance systems has been developed for a long time. According to Kim and Baylor (2006), since 1970 programs such as chatbots that use artificial intelligence have been developed in learning activities. It's just that it is still used in a limited circle. However, since the Covid-19 pandemic, the use of technology in learning activities has become inevitable (Safitri, 2022).

One of the developed uses of technology for learning activities is chatbots. Chatbot itself is a computer program that can perform tasks as

an automatic message sender (Ahmad et al, 2018). One of the advantages of chatbots is that they have artificial intelligence so that they can imitate human conversations (Molnar and Szuts, 2018). When a human sends a message to a chatbot it will react to reply to the message.

During this covid-19 pandemic, the presence of chatbots that can interact with humans using human conversational language is felt to be very helpful for humans to become friends who provide empathy (Jiang, Zhang, and Pian, 2022). Chatbots can help humans anytime and anywhere (Zumstein and Hundertmark, 2017). Chatbots can entertain people, ranging from answering questions (Pham et al, 2018), playing favourite songs (Ranoliya et al, 2017), to

becoming a confide in chatbot applications for Education (Saenz et al, 2017).

One of the chatbot applications for education that is designed to be a friend to confide in teenagers is SaCu (Sahabat Curhat). This application was created in a program held by Virtual Education Academy in collaboration with ai4impact in January 2022. This program lasted only two months, and successfully produced several Education chatbots. In this program, SaCu became the first winner, because apart from its attractive chatbot, it also became the chatbot that received the most positive comments from users.

Chatbot Sacu was created because chatbots are tools that can be used as agents of pedagogical education (Georgescu, 2018). As an educational agent, chatbots are used to improve the quality of teaching to be more interesting and innovative (Zahour et al, 2020). Likewise, the SaCu Chatbot is aimed at teenagers who have problems around learning. SaCu is also a pedagogical agent who seeks to understand the emotional, cognitive, and social problems of adolescents as students. This is in line with the results of previous research conducted by Bii (2013). Bii revealed that the presence of chatbots in teaching and learning has increased students' interest in learning. This is because learning chatbots can create interactions with users, set goals, strategies and learning outcomes.

Another study conducted by Yildirim (2017) found that teaching using gamification-based chatbots could improve student achievement. Chatbots can act as teachers helping students with learning difficulties. The difference between the two previous studies and this research is that this study aims to describe how the SaCu chatbot can help students who have problems in learning in emotional and social aspects.

Based on data from UNICEF 2022, it is estimated that adolescents will experience the long-term impact of COVID-19 in terms of mental health. It is estimated that more than 1 in 7 adolescents, 10-19 years in the world who experience mental health disorders. Nearly 46,000 who commit suicide each year. Suicide is one of the five main causes of adolescent death (Kasih, 2022).

Adolescence is a transitional period marked by

various physical, emotional, and psychological changes. Adolescence is also known as puberty, which is a period of transition from childhood to young adulthood which is prone to problems with mental and emotional health. From this mental health problem, it also has an impact on physical and mental health (Hartati et al, 2022).

The vulnerability experienced by adolescents is due to their limited understanding and inability to communicate their feelings. Not to mention that exposure from social media also disrupts the orientation of teenagers so that it affects the mental health of teenagers (Imran et al, 2020). This mental health problem if not addressed will affect the achievement of adolescents in school and their role in society. Therefore, this mental health problem is also a concern for teachers and educators.

The SaCu chatbot team created a chatbot so that teenagers can get a channel that they can be friends with and provide support. As stated by Sommer et al (2018) in previous research. Sommer et al's research found that social support in learning activities is needed by adolescents who have mental health problems. Therefore, this study is interested in investigating further the use of SaCu chatbots to overcome adolescent mental health problems.

METHODS

The research methodology used in this research is qualitative with descriptive research type. This method was chosen because it adapts to the purpose of this study which is to make a systematic, factual, and accurate description or description of the facts, nature, and relationships between phenomena (Sugiono, 2011) regarding the use of SaCu chatbots that are used to overcome adolescent mental health problems. Data collection techniques in this study using literature study and observation.

Data analysis was carried out using qualitative text analysis. Qualitative content analysis is a method used to understand the content and symbols in the contents of a document. Documents here can be in the form of printed or audio-visual versions of documents (Eriyanto, 2011).

The literature study conducted by the researcher is to study and examine the literature and library sources related to the keywords in

this research. The library sources used are journals, books and news related to the research topic.

Observations were made on the SaCu chatbot (<https://app.smojo.org/ariantopakaang/SahabatCurHat?p=t>). The author is one of the team members who recommends content links to be published on the SaCu chatbot. In this study, researchers conducted direct observations of behind the layers of the SaCu chatbot creation process and examined the content of the SaCu chatbot.

The qualitative content analysis was carried out by examining the documents in the SaCu chatbot qualitatively by interpreting the contents of the SaCu chatbot, reading the symbols in it and seeing the usefulness of the contents of the SaCu chatbot in overcoming adolescent mental health problems.

RESULT AND DISCUSSION

Artificial Intelligence x Human Intelligence

The problem of adolescent mental health is currently a topic of conversation. The number of teenagers who are affected by mental health disorders makes educators work harder to educate today's younger generation. The Indonesia National Adolescent Mental Health Survey (I-NAMHS) disseminated the results of its research in Jakarta (20/10/2022) that in the last 12 months, one in three adolescents in Indonesia or 15.5 million Indonesian adolescents had mental health problems. Then, one in 20 teenagers or 2.45 million Indonesian teenagers experience mental disorders.

I-NAMHS also released data that the most common mental disorders experienced by adolescents were anxiety disorders by 3.7%, major depressive disorder 1.0%, behavioural disorders by 0.9%, attention disorders by 0.5% and hyperactivity or ADHD by 0.5%. Adolescents, with mental disorders prefer to access mental health services from schools. The figure reaches 38.2% (Intan, 2022). This data is in line with what the SaCu team predicted when it would create a mental health chatbot for teenagers.

The SaCu team is a team formed by the Virtual Academy Education (VEA) team from participants in creating a chatbot for education in

collaboration with ai4impact. The VEA team created a team of five people who were randomly selected from the registered participants. Each team was given a briefing from ai4impact which was delivered by Mr. Cristian Jonathan through the zoom meeting application, then a tutorial guide was given in the what's app group and if participants had difficulties, Pa Cristian, and the team in the what's app group answered.

Group 8 is a group from the SaCu team, where Mr. Arianto Pakaang is the team leader, and he is also the one who built the SaCu chatbot with a sincere intention to be used by many teenagers who have mental health problems. Pa Arianto and the team's hard work paid off, they managed to become the winning team for the program. One of the reasons why the SaCu chatbot became the winner, was because it was the chatbot that was accessed by the most users compared to other chatbots in the program.

After SaCu became the winner, Pa Arianto then appeared as one of the speakers in a similar program for the next generation. Then the SaCu Chatbot became more and more known, because it also had the opportunity to be featured in each subsequent program. As of November 2022, the SaCu Chatbot has been viewed by 1.0K since it was launched in March 2022. In addition, there are 218 comments that users can see who say the SaCu chatbot is cool and helps them in counselling. There is even a counselling link with a counselor directly available. One such comment below:

"There is a live chat that turns out to be with humans. On the EXIT button, click Contact SaCu, you will be directly connected to the counsellor. Great"

The specialty of SaCu compared to other chatbots is that there is a link that connects to mental health counsellors. This is because in dealing with mental health, chatbots are not enough, there must be humans who serve counselling consultations. It is closely related to advanced mental health problems.

Simple, Interesting, Contextual Theme for Teens

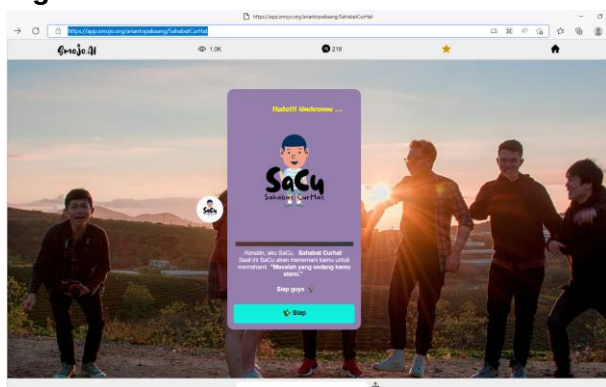
Mental health according to WHO in Phangadi (2019), is the state of a person who realizes his potential, can overcome stress so

that he can work productively and contribute to his environment. If mental health problems are not addressed, it will lead to stress and depression. Depression and stress can be a source of various physical illnesses that can lead to death. This is because stress and depression can disrupt the immune system (Rudianto, 2022). To prevent it from becoming a physical disease, creative efforts are needed, such as what is done by Chatbot SaCu. One of the comments wrote something like this:

“Cool apps, simple, interesting, contextual theme for teenagers”

When someone opens the link <https://app.smojo.org/ariantopakaang/SahabatCurHat>, they will be greeted with the following screen:

Fig.1 Initial View of the SaCu Chatbot



Yellow text “Hello!!! Welcome...” is a running text, below it is a picture of SaCu. Then there is a text containing self-introduction and a statement that SaCu will be a friend to understand the problem at hand. Then there is the ready button.

When the user clicks the ready button, classical music will appear with the sound of a piano chiming and is also greeted with moving images of family icons consisting of grandfather, grandmother, father, mother and brother. Below the picture there is an inscription to get acquainted with how to type a username.

After the user types in his name, SaCu will respond with the text that SaCu is happy to meet the user. Then ask the user to click on the main menu button. After that, SaCu's voice said, “Let's get to know your problem!! What are you upset about today?” The article is also written on the SaCu chatbot. Under the article there is a choice of problems that users can choose to explore further. The options available are

inferiority, love, sex, stress, quizzes, and FunFact about your Generation, as well as the exit button. The user can choose which button he wants to tell the SaCu.

When the user selects the inferior button, SaCu will make the same voice, “Let's start getting to know your problem!! What are you upset about today?” Below is a brief explanation of inferiority. Then there is an explanation of the causes of inferiority. After the explanation there are three buttons that the user can choose, namely the continue button, no, just other materials and the main menu. If the user chooses to continue, then the user will get tips to overcome inferiority. There are five tips given by SaCu. Each tip has a clickable button for further explanation. These further explanations are interconnected with other explanations that are advised by SaCu. At the end of the explanation, there is a main menu button, which will take the user to click on the button for other problems that they want to tell.

Users who select the love button, then SaCu will explain what the feeling of Love is. SaCu also made a sound to read the first paragraph about feelings of love. After that there is a click button regarding the problem of teenage love. There are 4 love problems according to SaCu. After that, SaCu points to the overcome button. There are 4 ways to fill the address button. Each method can be clicked on the button to get an explanation. After that the user can Return to the main button.

Users who choose the sex button, will get education about sex. Then the user is directed to press the sexual problem button. There are five sex problems according to SaCu. And SaCu directs teenagers not to get involved in these sex problems. Then the user is directed to the main menu.

Users who press the stress button, get a briefing from SaCu that stress is a problem that everyone has experienced. Then SaCu gave tips. At the end of the tip, SaCu asks what the most annoying user problem and it is feels like you want to kill yourself. Then the user is directed to click the button. On the button, the user reads the text that suicide is the second leading cause of death in adolescents after motorized accidents. Then there is an explanation of the causes of youth suicide. SaCu then provides a text that if a user experience one

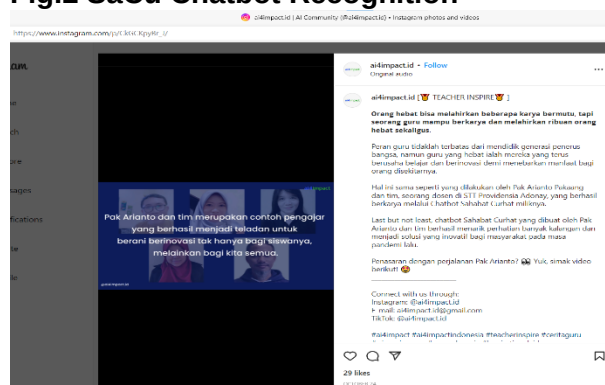
of the reasons why a teenager commits suicide, the user is asked to tell a friend or trusted person. Then point to the two-way exit button. On this button, there are explanations for two ways out of SaCu, then Contact SaCu, if you want to continue telling the story to SaCu. The contact is connected to SaCu's whatsapp link at +6283124057128. SaCu also invites users to release their worries by playing quizzes.

Users who click the quiz button will be given 10 questions. Users can click on the questions they want randomly. The question contains an explanation written on the SaCu Chatbot. If the user answers correctly, the user will be congratulated by SaCu in the form of a congratulatory image. If the user answers incorrectly, the user will get the words "Oops, not correct, let's listen to it again!" and a picture of a child accompanied by the words "Take a deep breath and try again guys".

The last button in SaCu is FunFact about your Generation. This button contains a collection of facts about teenagers that SaCu users need to know and there is also a YouTube video of outstanding Indonesian teenagers. After that there is an exit button containing the text thank you from SaCu for visiting. SaCu also provides Whatsapp Contacts for users who want to continue talking to counsellors regarding mental health problems.

The ai4impact program also collaborates with the Independent Campus Program of the Ministry of Education and Culture of the Republic of Indonesia and makes publications on Instagram under the name ai4impact.id. On this Instagram, Pa Arianto had the opportunity to make a video about the SaCu application, at the end of the video there was a photo of the entire team from Chatbot 8. Here is the view from the end of the video:

Fig.2 SaCu Chatbot Recognition



The video explains that the SaCu Chatbot has managed to attract the attention of many groups and become an innovative solution for the community during the past pandemic. The Chatbot 8 team is considered a team that can be an example for daring to innovate, not only for their students, but also for others.

The recognition video is in accordance with the empathic communication model developed during the covid-19 pandemic, where students who experience mental disorders such as anxiety need to get attention and supervision from educators, besides they also need time and privacy in telling their problems and feel that they are getting appreciation. (Safitri et al, 2021) from stories that cannot be told to many people. However, with the SaCu chatbot and further guidance from counsellors, the students found it helpful

CONCLUSION

Many teenagers who have mental health problems need a place to express their feelings. Talking to chatbots is an alternative because they can comfortably express their feelings. Especially during the pandemic, this chatbot application is considered very helpful in overcoming the problems of teenagers who have mental health problems.

Through the SaCu Chatbot, many teenagers find it helpful and have friends to talk about what is bothering them. The SaCu chatbot, which not only contains brief explanations about adolescent mental health problems, is also equipped with quizzes, fun facts, classical music, funny animations, and YouTube videos. Even this

Chatbot also connects to a counselor contact link who will handle user problems more intensively.

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