

## COOL DOWN: BURNOUT EDUCATION FOR STUDENTS BASED ON MOBILE APPLICATIONS THROUGH THE MASLACH APPROACH

Oleh :

Bayu Anggoro Putro<sup>1)</sup>, Lussy Anggraini<sup>2)</sup>, Ahmad Zhofari<sup>3)</sup>, Luthfia Nadya Fathni<sup>4)</sup>, Hana Azkia Nisrina<sup>5)</sup>

<sup>1,2,3,4,5</sup> Yogyakarta State University

<sup>1</sup>email: bayuanggoro.2020@students.uny.ac.id

<sup>2</sup>email: lussyanggraini.2022@student.uny.ac.id

<sup>3</sup>email: ahmadzhofari.2021@student.uny.ac.id

<sup>4</sup>email: luthfianadya.2022@student.uny.ac.id

<sup>5</sup>email: hanaazkia.2023@student.uny.ac.id

### Informasi Artikel

#### Riwayat Artikel :

Submit, 11 Juli 2025

Revisi, 10 Agustus 2025

Diterima, 13 Agustus 2025

Publish, 15 September 2025

#### Kata Kunci :

Mobile Application,  
Burnout Education,  
Students.

### ABSTRACT

The purpose of this study is to interpret Cool Down as educational media to minimize burnout. The method used is research and development: (a) determining the target problem; (b) collecting data on students as a needs test; (c) detailing application content; (d) application design. The statistical test showed that 80% of students in the educational material aspect questionnaire felt that the burnout material was relevant to their needs, 80% of students in the learning style aspect needed flexible educational media, 86% of students in the media preference aspect felt that they needed interactive burnout education, and 85% of students in the application availability aspect questionnaire felt open to this innovation. The validity test of all questions had a total sig (2-tailed) of less than 0.05. Furthermore, the Pearson correlation coefficient was greater than the r-table for 63 respondents, indicating a valid questionnaire. The reliability test was carried out using Cronbach's Alpha with  $0.686 > 0.6$ , indicating that the needs questionnaire had good reliability. The t-test coefficient on the questionnaire of educational material aspect needs, learning style, preferred media on the availability of total sig applications (2-tailed) is smaller than  $< 0.05$ , which indicates that there is an influence of independent and dependent variables. The mobile application has insightful features such as mind comics, mind infographics, and peer counseling. The stimulus feature represents the students response to burnout material presented through assessments and interactive games. Both features refer to Maslach's theory that burnout is related to emotional exhaustion, depersonalization, and personal accomplishment.

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### Corresponding Author:

Nama: Bayu Anggoro Putro

Afiliasi: Yogyakarta State University

Email: bayuanggoro.2020@students.uny.ac.id

### 1. INTRODUCTION

Nowadays, every human being is familiar with the term burnout. Humans can experience burnout anywhere, both in their social and academic lives especially when facing a very high level of

competition. It is known that burnout felt by humans is a condition that arises from a combination of academic work factors and internal personal factors. This situation causes the person concerned to be unable to function properly when in a conducive

state. Furthermore, burnout is a state of mental fatigue due to work-related pressure and occurs as a form of long-term interpersonal stress.

Burnout is also experienced by students. Burnout among students requires serious attention so that students have good self-regulation skills to manage these stressful situations (Ainun et al., 2022). This is because burnout leads to decreased motivation and reduced interest in completing tasks. Burnout is different from stress because stress emphasizes temporary responses to pressure, while burnout emphasizes the condition of chronic fatigue that develops due to prolonged stress. Referring to the 2024 Asia Care Survey data, burnout is the most worrying mental health disorder. This can be seen from the number of respondents who answered this question, with students making up 56% of the total respondents. In line with (Hasbillah and Rahmasari., 2022), academic burnout is influenced by several factors, including: (1) Self Concept. It is emphasized that students who are overly concerned about how others judge, see, and respond to them will be more susceptible to stress and may struggle to maintain achievement when under pressure. (2) Work Overload. A situation where the tasks received by students exceed their abilities (3) Lack of Social Support. Emphasizing the lack of social support will cause students to experience increased burnout, and (4) Lack of Reward. A lack of appreciation for students will weaken their enthusiasm for carrying out learning tasks and result in decreased commitment and motivation to learn. Preventive actions can be taken to address the problem of burnout.

The actions implemented take the form of education for students as a preparation for dealing with mental health issues, both those experienced by the students themselves and those affecting others (Pramastrri et al., 2024). Education also aims to help students gain knowledge, master competencies, and develop resilience and a positive attitude. Education provides constructive feedback to support students in understanding their strengths and weaknesses, thus encouraging improvement. Along with the development of the times, the media is very much needed in the educational process to stimulate motivation, interest in learning, understanding, and values in students, such as analytical, creative, and effective problem-solving skills. The educational media used in this study were designed in line with the main material taught, namely, burnout.

Educational media should be designed as simply as possible so that it is easy for students to understand. Most importantly, it should include the models and images with interesting and interactive visualizations for students, and be based on mobile application technology. Through educational media, students are able to receive the same stimulus, and learning experience. Therefore, the use of technology in the form of educational media is an alternative

recommendation to overcome the limitations of space and time in the educational process. By understanding the urgency of implementing technology appropriately, we can optimize the application of its benefits for students progress and minimize the negative impacts of burnout (Magdalena et al., 2021). Cool Down is a mobile application-based for educational media designed to integrate educational content as a solution, based on the theory put forward by (Maslach., 2019), specifically: (1) Emotional Exhaustion. Feelings of excessive emotional and physical exhaustion that cause sadness, frustration, and helplessness, as well as apathy towards responsibilities in students; (2) Depersonalization. Marked by the emergence of depersonalization behaviors such as behaving negatively, distancing from the social environment, and reducing work contact and interaction; and also (3) Personal Accomplishment Exist. A decline in achievement or performance is characterized by feelings of dissatisfaction or pride in oneself. (Nelma., 2019).

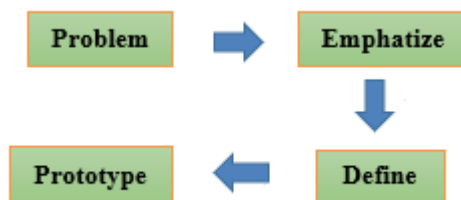
## 2. METHOD RESEARCH

The type of research used in burnout education through the cool down application is research and development. This method is a type of research that focuses on the stages of developing and refining a product. To develop a particular product, research is used that is of a needs analysis nature (Oktapatrioka et al., 2023). The following are the stages carried out in this research: (a) The problem is that the problem studied in this research is in students aged (14-24) years consisting of high school students and university students who have or have not experienced burnout; (b) empathize, namely collecting primary data with students as respondents through testing to identify and understand students needs related to educational content including learning styles, preferred media, as well as availability and skills;

<b>Educational Content</b>	a. Do you understand burnout as a mental health phenomenon? b. Do you feel that education about burnout is relevant to today needs? c. Do you need an interesting and easy to understand presentation of burnout
<b>Learning Styles</b>	a. Are you drawn to visual and kinesthetic learning styles? b. Do you prefer a self-paced learning style and flexible educational media? c. Are you interested in learning styles that can measure ability?
<b>Preferred Media</b>	a. Do you like using educational media in the form of text, images, and animation? b. Are you interested in using interactive educational media? c. Are you interested in using mobile application-based educational media?
<b>Availability and Skills</b>	a. Do you have access to the mobile devices needed to use mobile application-based educational media? b. Do you have access to a stable internet to access mobile application educational media? c. Do you have enough time to study using mobile application educational media? d. Do you feel comfortable using mobile application-based educational media?

**Table.1** Needs Test Instrument

(c) Define, namely after obtaining needs data beforehand from the empathize stage, researchers discuss or brainstorm to detail the needs in packaging the content in the Cool Down application; (d) Prototype, namely the creation of the Cool Down application design starting from the initial application design, menu display, to the main features application.



**Table.2** Research and Development

Data analysis in the research on developing educational applications for burnout among students, namely by statistical tests, validity tests, reliability tests, and coefficient tests (Martias., 2021). Starting with descriptive statistical analysis focuses on processing in the form numerical summaries such as averages or standard deviations. The aim is to provide an overview of the characteristics of the data without further descriptions conclusions on the wider population. Furthermore, the validity test is to ensure that the research instrument actually measures the variables being measured. Then, a reliability test is carried out to measure the extent to which a research instrument, namely a questionnaire, emphasizes stable or consistent results if used repeatedly on the same subjects under similar conditions. Finally, a coefficient test is carried out through a t-test to test the significance 86 the influence of each independent variable on the dependent variable. This means the regression coefficient of reliability for each independent variable is individually statistically significant or not. SPSS (tatistical Package for the Social Sciences) is very useful for analyzing survey data, including creating questionnaires, entering data, and analyzing results. in various fields of scientific research to test hypotheses and draw conclusions.

### 3. RESULT AND DISCUSSION

#### A. Needs Test Results

➔ Descriptives

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Materi Edukasi	63	10.00	15.00	12.9048	1.39947
Gaya Belajar	63	10.00	15.00	12.6349	1.54817
Media Disukai	63	11.00	15.00	13.0952	1.41095
Ketersedian Media	63	13.00	20.00	17.1270	2.03590
Valid N (listwise)	63				

**Picture.1** Descriptive Statistic

Findings were obtained from the descriptive statistical test on the aspect of educational material

needs, namely an average value of 12 out of a maximum value of 15. This means that 80% of students feel that education about burnout material is relevant to current needs and requires interesting and easy-to-understand presentation material. Findings were obtained from the descriptive statistical test on the aspect of learning style needs, namely an average value of 12 out of a maximum value of 15. This means that 80% of students feel that they need a flexible learning style, interesting visualizations, and measure abilities. Findings were obtained from the statistical test on the aspect of preferred media needs, namely an average value of 13 out of a maximum value of 15. This means that 86% of students feel that they need interactive burnout education media. The statistical test results also influenced the assessment of application availability of the Cool Down mobile application, namely an average value of 17 out of a maximum value of 20. This means that 85% of students feel that they are open to the innovation of the Cool Down mobile application to learn about burnout.

The findings of the validity test of the needs instrument on 63 students as respondents were obtained that all questions were said to be valid because the total sig (2-tailed) was smaller <0.05. Then, the r-count of the person correlation was greater than the r-table > 0.244 with a coefficient level of 0.05. The total number of questions covers aspects of educational on material, learning style, media preferences, and application availability.

Reliability Statistics		
Cronbach's Alpha	N of Items	
.686	13	

**Picture.2** Reliability Test

Instrument reliability testing was conducted using Cronbach's Alpha. A research instrument is said to be reliable if the Cronbach's Alpha value is 0.6 or more (Sugiyono., 2017). The results of the reliability test on the Cool Down mobile application needs instrument for students showed Cronbach's Alpha of 0.686. So it can be said that the questionnaire as a measuring instrument has good reliability and the measurement results are consistent.

Coefficients <sup>a</sup>					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	9.876	3.297		2.996	.004
Educate Materials	.309	.139	.271	2.224	.030
Study Style	.034	.133	.031	2.252	.002
Preferred Media	.266	.142	.228	1.877	.065

a. Dependent Variable: Application Availability

### Picture.3 Coefficient Test

The findings of the t-test coefficient on needs instrument related to aspects of educational material, learning styles, and preferred media for students on the availability of the Cool Down mobile application were obtained that the total sig (2-tailed) was less than  $<0.05$ . So, there is influence of the variables of educational material, learning styles, and preferred media on the availability of the application. Then the t-count was greater than the t-table ( $>1670$ ) for 63 respondents, namely 2,224 in the educational material variable, the learning style variable was 2,252, and the preferred media variable was 1,877.

### B. Application Features

In designing an application, there are features that are elements of novelty. Each feature has its own function to suit the needs, including. First, an insightful feature that represents the ability to connect one material to another related material. This means that the material in burnout education is linked to real-life experiences of students. This is very important to learn to develop the mind in viewing world life as it is, so as not to be trapped in unjustified beliefs. Students do not have to study insightful knowledge in detail, at least understand it, so that they can form broader and more objective thoughts. Students are more enlightened and their insight into burnout is increasingly optimal (Adawiyah et al., 2023).

In the insightful feature, educational material burnout is presented in the form of comics and infographics, which are divided into several materials such as about emotional exhaustion, depersonalization, and personal accomplishment. Comics and infographics provide visuals that help students understand and strengthen memories of complex burnout material. Comics and infographics present material with moral messages that help shape student's character in dealing with burnout. In addition, the insightful feature is supported by counseling sessions that can help students make decisions, get to know themselves to believe in their potential or talents, and help students to continue learning to deal with burnout, including how to minimize it (Putro et al., 2024).

Second, a stimulus feature that represents the response or stimulation from students to the urgency of education on material burnout, creates a pleasant learning atmosphere, and makes the learning experience more interactive. In the stimulus feature, educational information about burnout is presented in the form of a burnout assessment for students to find out whether students are experiencing burnout or not, so that feedback can be given on the measurement results along with solutions. Here are the burnout assessment questions for students:

<b>Emotional Exhaustion</b>	<p>a. Easily feel mentally and physically tired after day of studying?</p> <p>b. I feel easily offended when following the subjects I study?</p> <p>c. I feel bored when studying the</p>
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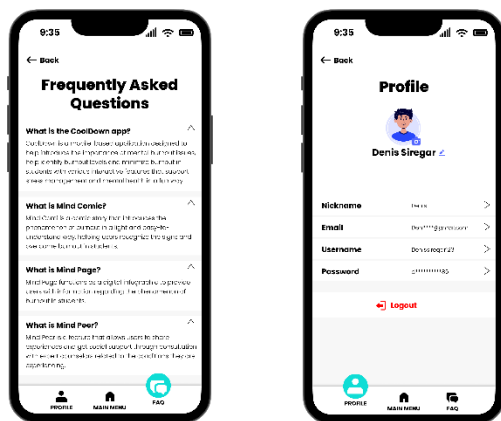
	<p>subjects I am studying?</p> <p>d. I find it difficult to focus on the subjects I am studying?</p> <p>e. I feel unmotivated when I am about to learn something. I am studying?</p> <p>f. I find it difficult to enjoy study time?</p> <p>g. I feel burdened by the demands of parents and teachers in studying?</p>
<b>Depersonalization</b>	<p>a. I feel unable to reach my learning potential?</p> <p>b. I feel that I will not be able to achieve my learning goals?</p> <p>c. I feel hopeless in facing learning problems?</p> <p>d. I feel that I have no hope for my future studies?</p> <p>e. I doubt the good results of the efforts I have made?</p> <p>f. I feel like no one understands my feelings about studying.</p> <p>g. I feel that there is no time to study and it is a waste?</p>
<b>Academic Efficacy</b>	<p>a. I often feel dissatisfied with the learning outcomes that have been achieved?</p> <p>b. I lack confidence when actively a contributing to learning?</p> <p>c. I often compare myself with other people who I think are better?</p> <p>d. I only feel motivated to study when I get good grades?</p> <p>e. I feel anxious when I'm about to do something new?</p> <p>f. I often feel worried if academic tasks are not completed properly?</p>

**Table.3** Assessment Questions

To answer the question above, students can choose the answer options from strongly disagree, disagree, neutral, agree, and strongly agree, later the overall score regarding burnout student's can be known. This assessment helps in understanding the root causes of burnout and developing appropriate strategies for mitigation. In addition, interactive games are also presented that allow students to solve problems and think critically. Through games, students can experiment with concepts about burnout and see the impact directly. Then, the games features also encourage students to learn independently. Take responsibility for their own learning (Azima et al., 2025). Both the insightful features and the stimulus features complement each other in their usefulness. Here is a prototype of the Cool Down mobile application.







Picture.4 Coefficient Test

### C. PESTEL Analysis

PESTEL analysis (Political, Economic, Social, Technological, Environmental, and Legal) on the Cool Down mobile application as an indicator to evaluate external factors that can affect the sustainability of the application (Nurhayati., 2023). The following is a more detailed explanation of each factor: First, politics. Namely the Cool Down mobile application emphasizes cybersecurity and the use of students' personal data in line with government regulations regarding education. The government's education policy regarding the curriculum and the use of technology in education makes the Cool Down mobile application can be adapted to current educational needs. Second, the economy. Namely the existence of the Cool Down mobile application as a long-term investment that can support sustainable development goals improve skills that have an impact on economic growth. This is because students from various backgrounds also have equal opportunities to learn. Third, social. Namely the existence of the Cool Down mobile application capable encourages students to be competent digitally literate and forms a positive view of appropriateness of technology in education, so that students are more likely to use it. Fourth, technology namely the existence of the Cool Down mobile application as a catalyst for transformation in the way of learning and teaching. The Cool Down mobile application is not just a tool, but also changes the paradigm, making it more efficient, interactive, and supporting inclusive education. The Cool Down mobile application opens up wide educational access to access educational material burnout and resources that were previously difficult to reach. The existence of the Cool Down mobile application increases student participation in learning and provides a more personal learning experience relevant to future needs. Fifth, the environment namely researcher's awareness of environmental issues, so that they develop or adopt environmentally friendly the Cool Down mobile applications. Sixthly, legal namely the existence of protection of rights for works in laws and regulations related to education, making the Cool Down mobile application increasingly important, namely to able

foster usefulness and also function demonstrate its innovation for used as an operational learning tool.

### D. Advantages and Challenges

The strengths and also opportunities of the Cool Down mobile application are that it can save costs compared to educational media because it does not require transportation costs or physical facilities. Not only that, the Cool Down mobile application can be used online or offline. The Cool Down mobile application can be easily updated with content and ensure that students as users always get the latest and relevant information. The interactive features of the Cool Down mobile application can increase student engagement and encourage students to understand the material and get feedback on answers. In addition to focusing on opportunities, of course there are also challenges in developing the Cool Down mobile application, namely the support of teachers and parents of students (Silmi & Hamid 2023).

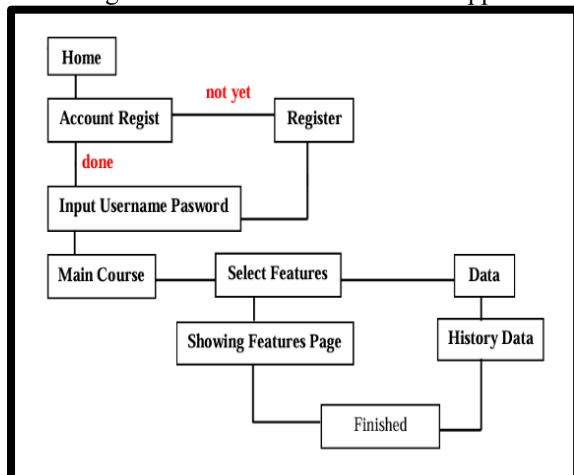
Teachers certainly need training and an introduction to the Cool Down mobile application in order to use the educational application effectively. Solution found is to socialize the use of the Cool Down mobile application, including how to integrate it into the curriculum and learning approaches. Researchers as teacher partners certainly share experiences and strategies in using Cool Down as educational mobile applications, so that they have an open attitude towards change and are willing to try new things. This solution has a positive impact that the Cool Down mobile application can also be applied in schools. Then, if parental support is weak, it will result in a learning environment at home that is not conducive and interferes with student concentration, reducing the effectiveness of learning.

Burnout education requires a high level of discipline that may be difficult to achieve without direct supervision. The solution that can be given is to provide an understanding of the urgency and features available in the Cool Down mobile application, including how to use it. Invite parents to discuss with students about academic, social, and application use experiences, including things that are difficult for students. Finally, researchers establish good communication with the parents of students to monitor learning development in students. Provide encouragement to parents to carry out family education functions well with the Cool Down mobile application.

### E. Application Usage Procedure

The urgency of the steps or procedures for using the Cool Down mobile application lies in the importance of ensuring efficient, effective, and safe use of the application. Clear procedures help students as users understand how to operate the application properly, maximize the functions of the Cool Down mobile application, and minimize errors. In addition, procedures also play a role in facilitating the maintenance and updating process and maintaining data and system security (Bonok et al., 2023). If there

are no application procedures, users may not know how to access the application's features, how to operate certain functions, or how to navigate the application as a whole. This can leave users feeling confused and unmotivated to use the application. This Cool Down applications has a FAQ (Frequently Asked Questions) to answer common questions that users may have. Procedures for using the Cool Down mobile application. The following are the procedures for using the Cool Down mobile application:



**Picture.5** Application Procedure

First, students can install the Cool Down application on Android or iPhone mobile phones. Second, students open the application, and on the home page displays the logo and account registration. In case you have registered, enter your username and password. However, if you have not registered, you can create or register an account first. Third, students will be presented with the main menu and various features such as insightful and stimulating. Fourth, students can choose the desired features, both insightful and stimulus features. Each feature has content that functions as education about burnout, such as mind comic, mind page, mind peer, assessment, and games. Fifth, on educational content can display visuals according to their respective functions. After finishing using the Cool Down application, the data will be saved as history.

#### 4. CONCLUSION

The Cool Down mobile application is an effort to open the boundaries of space and time so that the educational process is not hampered in its implementation. Improving the quality of education and skills in recognizing and dealing with burnout for students is an important issue, especially for the expansion of education beyond the subjects learned in school. There is no doubt that the Cool Down mobile application can increase student motivation and participation, especially for those who have limited access to sources of information in their knowledge. The Cool Down mobile application can foster positive student behavior towards burnout material in the educational process and respond better to the material through the features available in the

application. The Cool Down mobile application affects the five senses, thus ensuring greater understanding. Students who only listen to learning materials are not the same level of understanding compared to students who see, do, and about listen in the learning process. Insightful and stimulus features are able to represent facts, concepts, principles, and educational procedures so that they appear factual or concrete as educational aids that are able to increase the student's absorption. Cool Down mobile application that suits the character of the students can also enhance the learning process.

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