

# Development of hiking games technical group guidance module to improve resilience for vocational school students

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## ABSTRACT

The aim of developing the group guidance module with the hiking game technique is to increase personal resilience and determine the quality of the group guidance module with the hiking game technique as an innovation in guidance and counselling services—Borg & Gall's research and development method in this research. Sukmadinata's modification consists of three stages: preliminary study, model development, and model testing. The research results are a group guidance module on climbing game techniques to increase self-resilience—validation tests to determine the product's feasibility. Three experts validated the results: material, media, and service experts. The results of expert validation obtained data that stated that the group guidance module with the hiking game technique was in the "Appropriate" category. Based on these results, guidance and counselling teachers can use the group guidance module with the hiking game technique when providing services to students to increase personal resilience.

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## 1. Introduction

Adolescence is a period when humans are experiencing the process of forming themselves towards adulthood. Adolescence is synonymous with children who have a young and brave spirit (Hemberg et al., 2021; Sisk & Gee, 2022). During this period, individuals experience various changes, both physical (van Sluijs et al., 2021) and psychological (Rogers et al., 2020). The apparent differences are physical (Best & Ban, 2021). Apart from that, teenagers also experience cognitive changes and begin to be able to think abstractly like adults (Zuhri, 2023). During this period, teenagers emotionally detach themselves from their parents to carry out their new adult social roles (Bailen et al., 2019) as an individual problem that needs identification (Supriyanto et al., 2022). In this phase, clashes often occur, which cause problems for teenagers, such as mental and spiritual weaknesses, sometimes manifested in deviant actions (Lucchetti et al., 2021).

Deviant acts committed by teenagers often result in criminal acts. Juvenile crime is rising (Revital & Haviv, 2023); one is academic insecurity (Hartini et al., 2023). The problem of juvenile delinquency is a form of social pathology in the form of teenagers who skip school because they smoke, drink alcoholic drinks, or try illegal drugs, and often even fights between students (Hasanah, 2021). One of the factors causing juvenile delinquency comes from the school environment (Zhang et al., 2020). The lack of school facilities means students cannot channel their talents (Peters, 2022). School environmental factors also influence the occurrence of juvenile delinquency where guidance and guidance teachers do not guide and direct children enough so that children simply take their problems with them wrong (Saputra et al., 2020).

Education carried out in schools has maximized cognitive skills and abilities. The education currently needed is education that can integrate character education with an education that can optimize the development of all dimensions of children (Aini & Fitria, 2021; Dewantara & Dibia, 2021). Children who excel in character will be able to face all problems and challenges in their lives (Suwartini, 2017). Intra-curricular formal character education using mobile learning methods outside the classroom applied by inviting students to become one with nature and carrying out several activities that lead to the realization of students' character towards the environment through the stages of awareness, understanding attention, responsibility, and action or behaviour (Bernacki et al., 2020; Criollo-C et al., 2021). Education outside the classroom is education that takes place outside the school and involves experiences that require student participation to participate in adventurous challenges, which are the basis for activities outside the classroom, such as hiking, mountain climbing, camping, etc. (Kilty & Burrows, 2020). A person's abilities to face various stressful events, circumstances, and challenges are not the same, so good self-resilience is needed in students (Walsh et al., 2020).

Functioning individual resilience is an accepting enfacing something. People who have self-resilience are characterized by having a sense of meaningfulness in life, being committed to work, having reasonable control over their feelings, and being open to various opportunities and challenges in life as well as problems and the emergence of new life problems (Dhowi & Andagsari, 2019; Walsh et al., 2020). Self-resilience is one of the efforts to develop character education (Demirci et al., 2021). We recommend hiking as one of the games that can help students improve their resilience. Students like learning models based on outdoor activities (Kilty & Burrows, 2020).

Hiking or walking in nature is an active relaxation program that can reach beautiful places anywhere. Additionally, natural hiking requires physical and mental abilities, courage, patience, caution, discipline, concentration, and group cooperation (Colombo et al., 2021). Hiking is an activity that relies on the internalization of experiences encountered during and after individuals undergo a series of adventure activities and events from real life (Nugraha, 2018). This activity applies conceptually and empirically in group guidance services (Ambarwati & Wangid, 2024). The students tend to want to interact with friends not too far apart in age because they feel they have the same understanding and attraction to each other (Kiuru et al., 2020).

A module is needed to guide implementation when carrying out the climb. A module is a form of teaching material packaged entirely and systematically, containing a series of planned learning experiences designed to help students master specific learning objectives (Logan et al., 2021). The climbing module is a book systematically arranged and contains stages of climbing techniques using group dynamics. In climbing, group guidance seeks to optimize students' self-resilience abilities by utilizing nature as an engaging, fun, and challenging learning medium. Professional teachers implement this module for enjoyable learning (Hartini et al., 2023). Impact: This module creates a desire to learn and develop in students, as well as being able to optimize their abilities.

## **2. Method**

### **2.1. Research design**

The Games Hiking group guidance module was developed using a modified Borg & Gall research and development model, involving three stages: preliminary study, model development, and model testing. In the initial research, a needs analysis was conducted through surveys and interviews with students and guidance counsellors, followed by problem identification and a literature review. The model development stage involved analyzing survey results to design and develop a group guidance service program tailored to student needs and relevant theories. During model testing, two validation tests—expert validation and practitioner testing—were conducted, with feedback from three experts (in media, service, and material) used to refine the module, resulting in a final product ready for use and distribution.

### **2.2. Participants**

This research involved 35 vocational school students from Jalan Pramuka No. 62, Giwangan, Umbulharjo, Yogyakarta, Indonesia. The students were chosen using a purposive sampling technique. Only those with a low level of self-resilience were selected as research subjects.

### 2.3. Data collection tools

The research utilized a questionnaire as its primary data collection tool, specifically designed to assess the self-resilience of vocational school students. This instrument likely comprised a series of questions or statements to which students responded, enabling researchers to gauge their resilience levels—how well they cope with stress, adapt to challenges, and maintain mental well-being in adversity. By targeting vocational students, the study may have sought to understand the unique resilience factors within this demographic, who often face distinct pressures related to career preparation and skill development. The resilience scale comprises 21 items focused on recovery and the sustained pursuit of positive outcomes, with a validity range of 0,521 to 0,721 and a reliability coefficient of 0,891, placing it in the excellent category.

Apart from that, the instruments used are assessments of media, material and practitioner experts. The media expert assessment consists of format, organization, attractiveness, language, shape and size of letters, and consistency. Furthermore, the material expert assessment consists of self-instructional, self-contained, stand-alone, adaptive, and user-friendly aspects. Finally, the practitioner's assessment includes service effectiveness, usefulness, and media quality. The three instruments validate the acceptability of the products produced in this research.

### 2.4. Research procedure

The research procedures involved several critical steps. First, the researchers identified potential issues and problems within the study area. Next, they collected data using distributed questionnaires, which informed the product design to be developed. The product underwent a validation process involving material, media, and service experts. Finally, the researchers revised the product based on the feedback received during the validation.

### 2.5. Data analysis

The data analysis in this research employed a quantitative descriptive approach, utilizing percentages to interpret the assessments provided by media, material, and service experts. This method allowed the researchers to systematically quantify the feedback and opinions of the experts, translating their qualitative evaluations into measurable data. By analyzing these percentages, the researchers could determine the overall feasibility and effectiveness of the developed product. This approach ensured that the product's strengths and weaknesses were identified, providing a solid basis for understanding its potential impact and guiding any necessary revisions or improvements.

## 3. Results and Discussion

The product produced in this research is a group guidance module with a hiking game technique. This module is A4 size, has 51 pages, and uses Times New Roman font, with the arrangement namely, 1) The front cover contains the module title and the author's identity, then the back cover contains illustration images, 2) Foreword and introduction. Contains a brief explanation before going into the contents of the module, 3) Instructions for using the module, 4) The content of the material consists of 6 main topics, namely group guidance, self-resilience, "hiking" game techniques, first-day activities, second-day activities, third-day activities, 5) Evaluation contains experiences, plans to be carried out after participating in training, and assessment of activities.

Researchers validated group guidance on hiking game techniques with three experts competent in guidance and counselling programs. Data obtained from expert validation using questionnaires and suggestions for improving the group guidance module with a hiking game technique are quantitative data. Quantitative data from material expert assessment of the group service guidance module. Hiking game techniques to increase self-resilience in vocational school students.

Descriptive statistical analysis and categorization analysis apply in research. Descriptive statistical analysis to find the maximum score, minimum score, mean or average, and standard deviation. This analysis is to determine the categorization of module feasibility. Categorization analysis applies to the module's level of suitability to students' resilience. The results of the categorization analysis are in Table 1.

**Table 1.** Recapitulation of expert assessments

No	Validator	Average score	Category
1	Material validator	83.33	Worthy
2	Media validator	75	Worthy
3	Guidance and counseling teacher	84.61	Worthy

From the data validation results, the material in the guidance module for the climbing game technique group is in the "Suitable" category, with an average score of 83.33. The results of media validation data in a technical guidance module showed that the climbing game group is in the "Decent" category with an average score of 84.615. From the data validation results, the technical group guidance services for climbing games are in the "Decent" category with an average score of 75. Based on the validation results carried out by these experts, the development of the climbing game technical group guidance module is suitable for use.

The research results show that the group guidance module with the hiking game technique suits guidance and counselling services based on validation test results. Categorization data shows that the product developed is ideal for use. Group guidance services using hiking game techniques can increase students' self-resilience. Providing direct experience to students through mountain climbing games will form students' positive character, both physical and mental, courage, patience, caution, discipline, and concentration, which are essential elements in managing emotions (Colombo et al., 2021). By applying climbing game techniques, students also get direct opportunities to prepare for their needs, plan trips, interact with friends, solve problems, and be more sensitive to the surrounding environment (Izzaty et al., 2016).

Creativity in combining various approaches counsellors use promises effectiveness in developing students' meaningful experiences (Christian & Perryman, 2018). Experience can create behavioural dimensions for self-control, self-confidence, and acting courage (Supriyanto et al., 2022). It is carried out in an atmosphere of guidance and education to realize optimal student development. The challenge for counsellors is to change the traditional paradigm because counselling applies indoors and outdoors. The limitation is the study during COVID-19, so researchers could not conduct product trials directly in the field.

Furthermore, the module's design, which integrates nature-based activities with group dynamics, aligns with contemporary educational theories' holistic approach to student development. By engaging students in physical activities that require cooperation, endurance, and strategic thinking, the module not only supports the development of physical and mental resilience but also encourages the growth of social skills and peer relationships (Merlin-Knoblich et al., 2022; Nugroho et al., 2021). Student skills growth is needed to develop professional teachers who have those skills (Titing, 2023). Positive peer interactions are a crucial factor in adolescent development, helping students build a support network that can contribute to their overall well-being and success in academic and personal domains (Chu et al., 2010; Traylor et al., 2016).

The impact of limitations in this research is the module's effectiveness evaluation through expert validation rather than practical application. This limitation means that while the module shows promise, its real-world impact on students' self-resilience remains to apply. Additionally, the sample size was limited to a specific demographic of vocational school students in Yogyakarta, which may not fully represent the broader student population.

Future research should focus on field trials to empirically test the module's effectiveness in various educational settings and among different student groups. Expanding the sample size and including a more diverse range of participants will provide a more comprehensive understanding of the module's impact as a recommendation for future longitudinal studies on the long-term effects of the hiking game technique on students' self-resilience and other aspects of personal development. These studies could also explore potential modifications to the module to enhance its applicability and effectiveness across different cultural and environmental contexts. Professional teachers build a civilization through students with professional teacher competencies (Arikunto et al., 2023).

#### 4. Conclusion

Developing the group guidance module with a hiking game technique to increase self-reliance is carried out in three stages: preliminary study, development, and validation. The validation results from the three experts showed that the group guidance module with the hiking game technique to improve self-resilience can be categorized as reasonable and feasible. The design of the group guidance module with hiking game technique to increase self-reliance consists of a front and back cover, preface and introduction, instructions for use, content, and evaluation sheet.

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