

# Evaluating the 'MORSERIANS!' Board Game's Impact on Reducing Boredom in Scouting Programs at Islamic Boarding Schools

Runik Machfiroh  
Telkom University  
[runikmachfiroh@telkomuniversity.ac.id](mailto:runikmachfiroh@telkomuniversity.ac.id)

Ulfa Nafi'ah  
Politeknik ATK Yogyakarta  
[ulfah.designer@gmail.com](mailto:ulfah.designer@gmail.com)

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## Abstract

Boredom among students at Islamic Boarding Schools is a persisting issue, particularly in non-academic programs, and has yet to be resolved. This study aims to analyze the extent of the impact of the innovation results of the 'Morserians!' board game in addressing student boredom in non-academic programs at SMAIT As-Syifa Boarding School. The method used is a mixedmethod with a design approach. The primary data collection technique through observation was conducted by the researcher directly observing the activities of students related to the research topic, providing an overview of the objects under study documented in the form of photos and notes. Structured interviews were conducted with foundation officials, teachers, and students, along with unstructured interviews and questionnaires for 11th-grade students at SMA As-Syifa with a population of 2000. The sampling technique, Nomograph Harry King, was employed, targeting 480 individuals. Secondary data was obtained through literature study. The results of this study indicate that the innovation of the 'Morserians!' board game has a positive impact on addressing student boredom in non-academic programs at SMAIT As-Syifa Boarding School. There is an increase in engagement scores for male students by 17.1% and

for female students by 44.8%. The 'Morserians!' board game emerges as an innovative educational media for non-academic programs, particularly in the Scout program, which can be utilized to enhance student learning motivation.

**Keywords:** *Board Game, Scout, Innovative Learning Media.*

## Introduction

Islamic boarding schools represent one of the school systems highly favored by many Muslim parents. Boarding schools in Indonesia currently serve as an alternative for parents seeking to educate their children for moral reinforcement in the contemporary era<sup>1</sup>. The advantages of the characteristics of boarding schools should ideally result in the formation of a high-quality generation, encompassing not only academic aspects but also moral and personal development<sup>2</sup>. Boarding school provides facility and infrastructure to meet students' needs in channeling their talents and hobbies. Students will have the opportunity to explore various interests, pursue field of their choice, and showcase their talents<sup>3</sup>. However, whether these schools have been able to fulfill their functions effectively still needs evaluation, particularly in Indonesia. This was indicated by previous research showing that learning boredom was significantly higher among students in full-day learning compared to half-day learning<sup>3</sup>. The issue of learning boredom is a classic problem that consistently occurs in the boarding school system. The value transfer scheme in the structural-functional Boarding School is hindered when conflicts

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<sup>1</sup> Ali Muhdi et al., "The Urgency of Islamic Boarding Schools in the Contemporary Era," *Al-Hijr: Journal of Adulearn World 2* (December 26, 2023): 233–55, <https://doi.org/10.55849/alhijr.v2i3.575>.

<sup>2</sup> Mamluatun Ni et al., "Online Learning Innovation and Student Character Shift at UNZAH and UNUJA Probolinggo Mohamad Ahyar Ma'arif" 18, no. 2 (n.d.): 2023, <https://doi.org/10.21111/attadib.v18i2.10549>. <sup>3</sup> Rubén Gaztambide-Fernández and Dominique Riviere, "A Positive, Safe Environment': Urban Arts High Schools and the Safety Mystique," *Harvard Educational Review* 89 (September 1, 2019): 397–420, <https://doi.org/10.17763/1943-5045-89.3.397>.

<sup>3</sup> Rahmi Wahyuli and Ifdil Ifdil, "Perbedaan Kejenuhan Belajar Siswa Full Day School Dan Non Full Day School," *Jurnal Aplikasi IPTEK Indonesia 4* (November 13, 2020): 188–94, <https://doi.org/10.24036/4.34380>.

result in dissatisfaction among passive actors (students)<sup>4</sup>. The social system is an interacting system within a specific social environment. In this context, individuals have motivation or drive to achieve a defined satisfaction, which is defined and mediated through a collectively structured symbol within the cultural framework. In other words, within the social system, there are actor, interaction, social environment, satisfaction optimization, and culture. Ideally, if values can be effectively transferred by active actors (schools) to passive actors (students) through positive interactions, it will lead to the satisfaction of the actor, resulting in the successful transfer of values becoming the character of the student (habituation)<sup>5</sup>. However, if an issue arises in the transfer process, satisfaction will not be achieved, and the transfer of values may experience failure or suboptimal outcomes.

This boredom is partly caused by the school and dormitory being located in the same place, a dense learning program, and various other factors, necessitating a dynamic learning environment to address these issues. Boredom triggers conflicts in the social interaction of boarding school students. These conflicts impact students' concentration, leading to suboptimal learning processes<sup>6</sup>. Previous research has found solutions by focusing on the improvement of teacher quality<sup>7</sup> and the educational content provided<sup>8</sup>.

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<sup>4</sup> Muhammad Hidayat, Fajar Widiyatmoko, and Pandu Kresnapati, "Tingkat Aktifitas Fisik Siswa Boarding School Dan Siswa Non Boarding School Di SMP Muhammadiyah 04 Sukorejo," *Journal of Physical Activity and Sports (JPAS)* 2 (April 30, 2021): 97–105, <https://doi.org/10.53869/jpas.v2i1.32>.

<sup>5</sup> Ahmad Saifulloh and Jia Ying Neoh, "TQM Implementation in Character Education: Lessons Learned from Pesantren Gontor," *At-Ta'dib* 17, no. 1 (June 10, 2022): 18, <https://doi.org/10.21111/at-tadib.v17i1.8047>.

<sup>6</sup> Siti Afifah, "Pengaruh Kejenuhan Belajar Dan Interaksi Sosial Terhadap Konsentrasi Belajar Siswa Dengan Sistem Pesantren Modern," *Psikoborneo: Jurnal Ilmiah Psikologi* 7 (December 24, 2019), <https://doi.org/10.30872/psikoborneo.v7i4.4827>.

<sup>7</sup> Robert Harutyunyan et al., "Motivation for Salary Increase for Teachers Depending on the Quality of Teaching and Research Results," *System Safety: Human - Technical Facility - Environment* 5 (December 29, 2023): 182–88, <https://doi.org/10.2478/czoto-2023-0020>.

<sup>8</sup> Aidillah Suja et al., "Pembelajaran Berbasis Multiple Intelligence Melalui Budaya Sekolah Di Thursina International Islamic Boarding School (IIBS) Malang," *TANJAK : Journal of Education and Teaching* 4 (March 8, 2023): 1–18, <https://doi.org/10.35961/tanjak.v4i1.629>.

One type of boarding school that is quite widespread in Indonesia is the integrated education system, which combines several types of curricula. Therefore, it is assumed that sources of boredom may stem from various complex factors due to the complex education system. Comparing with previous research, there has not been a study conducted on boarding school object with an integrated curriculum system, especially focusing on the analysis of the implementation of non-academic program derived from the applied unique curriculum. Additionally, it has not been found that innovation in learning media from the perspective of gamification design, in the form of a board game, is one of the strategies for reducing boredom. Therefore, this study will attempt to examine how boredom occurs in boarding school that implement an integrated curriculum system and analyze whether design knowledge can contribute to addressing this issue<sup>9</sup>. For this purpose, the study will take a sample of a boarding school with an integrated curriculum system located in West Java, namely SMAIT As-Syifa Boarding School, an Islamic school located in Subang, West Java, implementing an Integrated Curriculum by combining the Ministry of Education and Culture Curriculum and the Unique Curriculum of SMAIT As-Syifa Boarding School. Since its establishment in 2003, SMAIT As-Syifa has become one of the favorite private Muslim schools in Indonesia and has produced many high-achieving alumni who continue their education at both domestic and international universities. Students enrolling in this school come from various regions in Indonesia and abroad, making it assumed that this school is large enough to be the object of research.

## Method

The combined research method (mixed method) involves both data collection and data analysis carried out using two approaches: qualitative and quantitative. The Dependent Variable (Y) is the level of student boredom, and the Independent Variable (X) is the

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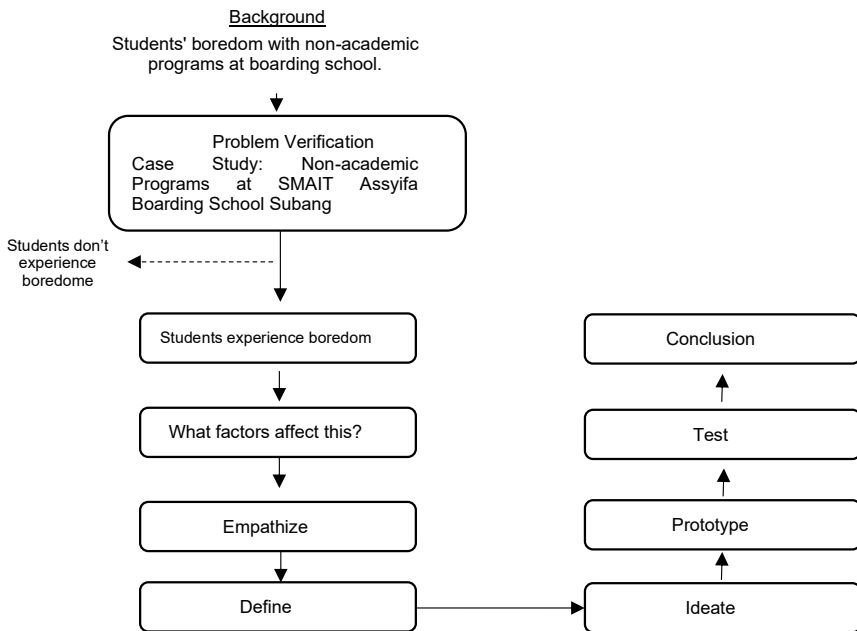
<sup>9</sup> Cecep Sobar Rochmat, Rosendah Dwi Maulaya, and Annisa Avilya, "The Concept And Role Of The Student Centered Learning Model In Adolescent Akhlaq Education," *At-Ta'dib* 17, no. 2 (December 10, 2022): 232, <https://doi.org/10.21111/at-tadib.v17i2.8285>.

design innovation product to be developed in the second stage of the research. The relationship between variables is categorized as correlational (cause-and-effect), indicating that this research aims to determine whether there is a relationship between variable X and Y.

H1: Design innovation products positively influence to reduce student boredom levels.

H0: Design innovation products do not have a positive influence on reducing student boredom levels.

The qualitative method in this research utilizes Design Thinking as both the analytical and solution design method. Design Thinking consists of 5 stages, as follows: (1) Empathize; (2) Define; (3) Ideate; (4) Prototype; (5) Test. The thought framework using this approach can be illustrated in the following schema.



**Figure 1. Design Thinking framework.**

The research was conducted at SMAIT Assyifa Boarding School in Subang. The observation period was from March to June 2022. Data collection techniques involved observation, interviews, and questionnaires, while secondary data were obtained through literature review. Observation was performed by the researcher directly observing student activities related to the research topic, providing an overview of the objects to be studied. The observation results were documented in the form of photos and notes.

Interviews were conducted with the foundation management, teachers, and students of SMAIT Assyifa Boarding School to gather information and identify any issues related to non-academic programs at SMAIT Assyifa, particularly focusing on the issue of learning boredom (burnout student). Finally, questionnaires were distributed to SMAIT Assyifa students using Cluster Random Sampling, selecting samples from a population subgroup that met specific criteria. In this study, the criteria referred to students who had experienced the entire student development program, which was the subject of the study. The population meeting these criteria comprises 240 students from the 10th grade and 240 students from the 11th grade of SMAIT Assyifa, resulting in a total study population of 480 individuals. 12th-grade students were not included in the population category due to their different learning process, namely remote learning (PJJ) during the Covid-19 pandemic. Since most non-academic programs could not be attended by this cohort due to the online learning system, this group of students was not included in the population category as it did not meet the research object criteria.

The total population in this study are 30 to 2000, therefore, the sampling calculation employed is the Harry King Nomograph, chosen for its simpler and more straightforward calculation formula, well-suited for population of moderate size, such as in this study with 480 individuals. Considering the ease of data collection, a 5% margin of error or a 95% accuracy level was selected in the sampling calculation.

**Table 1. Population and Sample**

	Population	Male participants	Female Participants
Grade 11	246	80	80
Grade 10	246	80	80
Total	492	160	160

The data analysis techniques employed in this research involve triangulation for qualitative data and readability testing for quantitative data. Validity testing was conducted using SPSS 26 with a sample of 75 respondents. The SPSS 26 results revealed that one questionnaire item was invalid, specifically item number 14 (“Lately, often experiencing sleep disturbances at night”). Upon analysis of the validity test results, it was found that, on average, students filled in the same scores for “strongly disagree” and “disagree,” resulting in the invalidation of the entire questionnaire calculation. In connection with the qualitative discussion, respondents mentioned that boarding school students, in fact, want to sleep immediately due to exhaustion from rigorous activities. Based on this statement, it was decided to eliminate questionnaire item number 14 as it was deemed irrelevant to assess the level of student boredom in the context of boarding school students.

Reliability testing was performed using SPSS 26, examining all valid items to determine the Cronbach’s Alpha value for the entire set. If the Cronbach’s Alpha score for the questionnaire items is above 0.6, it can be considered reliable for repeated use within the same respondent context. After conducting reliability testing through SPSS 26, the Cronbach’s Alpha score for the 23 valid questionnaire items was found to be 0.833, indicating that the questionnaire is reliable to use.

The Experimental Method is used to evaluate the solution product. To ascertain the evaluation results, the pre-test-post-test questionnaire technique is used, along with direct observation to observe participant behavior during the experiment. In addition,

in-depth interviews were conducted to gather assessments from the participants' perspectives. The questionnaire used is the EDA Engagement Questionnaire<sup>10</sup> with a modified scale of 1-7. The following is the list of questions in the Pre-Test and Post-Test questionnaires in this study.

**Table 2 Pre-Test Questionnaire 'Student Engagement in Scout Program'**

Code	Indicator
ENE 1	During the Scout program, I feel energized.
DED 1	I feel that the scout tasks/materials are meaningful and beneficial.
ABS 1	When I am learning in the scout class, time flies
ENE 2	I feel strong and energetic when I study in the scout class.
DED 2	I feel enthusiastic about my scout lessons
ABS 2	When I am studying in the scout class, I forget about everything else.
ENE 3	I want to go to the scout class right away when I wake up.
DED 3	The tasks in the scout class inspire me.
ABS 3	I feel happy to learn in the scout class.

<sup>10</sup> Katariina Salmela-Aro and Katja Upadyaya, "The Schoolwork Engagement Inventory: Energy, Dedication, and Absorption (EDA)," *European Journal of Psychological Assessment - EUR J PSYCHOL ASSESS* 28 (September 16, 2011): 60–67, <https://doi.org/10.1027/10155759/a000091>.



**Table 3. Post-Test Questionnaire 'Student Engagement in Scout Program**

Code	Indicator
ENE 1	I feel full of energy when participating in the Scout program, particularly through the utilization of the board game named MORSERIANs!
DED 1	I feel that scout tasks/materials are meaningful and beneficial because of the board game MORSERIANs.
ABS 1	Time flies when I am learning in the scout class because of the board game MORSERIANs!
ENE 2	I feel strong and energized when I am learning in the scout class because of the board game MORSERIANs!
DED 2	I feel enthusiastic about my scout lessons because of the board game MORSERIANs!"
ABS 2	When I am studying in the scout class with the board game MORSERIANs!, I forget about everything else
ENE 3	Because of the board game MORSERIANs!, I want to go to the scout class right away when I wake up.
DED 3	The activities in the board game MORSERIANs! inspire me
ABS 3	I feel happy to learn in the scout class because of the board game MORSERIANs!,

## Result and Discussion

### Boardgame Desain "MORSERIANS!"

The Scout program at SMAIT As-Syifa Boarding School is a nonacademic "mandatory" program for all 10th-grade students, both male and female. This program is one of the main initiatives of the school to develop leadership skills, which are fundamental values in the character education curriculum at SMAIT As-Syifa Boarding School. The program runs for one year and undergoes an evaluation phase at the end of the year, incorporating a "remedial" system for those who fail to achieve the minimum passing grade.

Uniquely, as part of the leadership character education strategy, the school mandates selected 11th-grade students as senior scouts to educate their junior counterparts in this program. Speakers state that seniors contribute approximately 90% to the hands-on education of their juniors, implying that all technical aspects in the field are entrusted entirely to these seniors. Meanwhile, teachers, acting as Scout Leaders, provide curriculum guidance and oversee program implementation. The "students teaching students" strategy aims to shape the personality, leadership, and managerial skills of senior students in the Scout Program, as well as discipline among 10th-grade students. It also imparts various insights and practical scout skills.

However, a challenge arises as senior students balance their daily activities as boarding students. Consequently, their time for conceiving and preparing lessons is limited. As a result, the execution of the scout learning becomes somewhat improvised based on the experiences of the seniors from the previous year. The instructional materials provided by the scout leaders consist of standard equipment supporting scouting activities, such as scout handbook, ropes, bamboo, and others. Moreover, the strategy to enhance the positive mood of participants remains simple and light ice-breaking activities at the beginning of meeting. One student speaker notes that the weekly intensity of the Scout Program can lead to student boredom.

Some students perceive the learning content as less important or not supportive of personal needs, contributing to a tense learning atmosphere for 10th-grade students. The pressure of achieving minimum passing grades further exacerbates the students' stress. This depicts that the learning atmosphere in the Scout Program, as perceived by students, lacks a positive impression, instead creating a relatively high sense of monotony.

The proposed idea to address the monotony issue in this non-academic program involves employing the theory of "engagement," which will be transformed into a practical product using gamification techniques. Engagement, in a pedagogical context, refers to the energy, participation, and time that students invest in educational programs both inside and outside the classroom<sup>11</sup>. Student engagement is a form of student investment and commitment to the learning program, as well as the emergence of student initiatives to achieve learning objectives<sup>12</sup>. Additionally, research suggests a significant relationship between the level of student engagement and student boredom<sup>13</sup>. The study reveals a negative relationship between school engagement, academic achievement, gender, and boredom factors. The academic engagement dimensions, as further detailed, include Energy, Dedication, and Absorption<sup>15</sup>.

From a design perspective, the concept of engagement can be "designed" using gamification principles to create a positive experience for students, thereby reducing the perceived monotony in the non-academic program. In education, the use of gamification concepts has been shown to increase student activity, interest, and motivation<sup>14</sup>. By combining these two concepts, a proposed

<sup>11</sup> George Kuh, "What Student Affairs Professionals Need to Know About Student Engagement," *Journal of College Student Development* 50 (January 1, 2009), <https://doi.org/10.1353/csd.0.0099>.

<sup>12</sup> Cherniss, C. *Staff Burnout : Job Stress in the Human Services*. (1980). California: Sage Publications

<sup>13</sup> Salmela-Aro and Upadyaya, "The Schoolwork Engagement Inventory: Energy, Dedication, and Absorption (EDA)." 15 Salmela-Aro and Upadyaya.

<sup>14</sup> Habib Rahman, Rashmi Kodikal, and Sucharitha Suresh, "Game on: Can Gamification Enhance Productivity?," *F1000Research* 12 (October 18, 2023): 818, <https://doi.org/10.12688/f1000research.131579.2>.

solution in the form of a learning media product is formulated as a teaching aid for the Scout Program at SMAIT As-Syifa Boarding School. Generally, the design concept of the learning media for the case study aims to reduce the level of monotony in the non-academic "Scout" program at SMAIT As-Syifa, as illustrated in Table 2.1. Due to research limitations, the content used for designing the product focuses on Morse code proficiency.

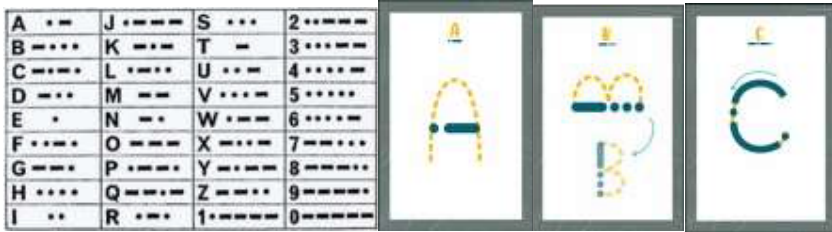
In design of this learning media, the substantive learning content is found within the 'Cards' component, while interactions among students are regulated by the game rules in the 'board game' component in general. The idea is to create a simulation of Morse code application in a virtual world within the 'MORSERIAN!' board game. To stimulate student motivation, the game is conducted competitively among small teams.



**Figure 2.1 Components of the board game 'MORSERIAN!'**

There are 10 components in this game, namely: Arena Board, Morse Cards, Aid Cards, News Cards, Quest Cards, Dot-Line Cards, Badges, Dice, Pawns, and Whistle. The main challenge in the game is the mission to collectively solve challenges in the Quest cards. The challenge involves encoding or decoding a word written on the Quest card. If the team successfully assembles or finds the answer, they must blow the whistle to summon the senior scout overseeing

the game. If the answer is correct, the group will earn 1 badge. The group that successfully collects 6 badges is the winner.



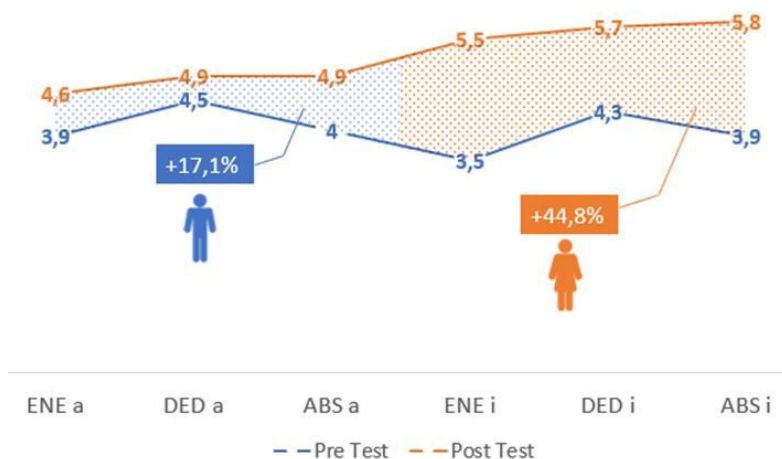
**Figure 2.2 Design of the Morse Code Cards**

The main idea behind the design of the Morse Code Cards is to visualize Morse code dots and dashes in such a way that students can remember the true meaning of each code visually. To achieve this, principles of Gestalt perception are applied, such as the principle of thin-thick, color, accent, background, and others. Furthermore, News Cards are used to incorporate insights of the scout. Aid Cards, Challenge Cards, Dice, and Pawns serve as entertaining elements in the game. Meanwhile, the Badges are intended to evoke motivation to play in a competitive atmosphere.



**Figure 2.3 Experiment of the 'MORSERIANs!' Board Game at SMAIT As-Syifa Boarding School**

**The impact of the innovation results of the 'Morserians!' board game in addressing student boredom in the Scout program at SMAIT As-Syifa Boarding School.**



**Figure 2.4 Level of student engagement at SMAIT As-Syifa Boarding School before and after playing the 'MORSERIANS!' board game**

Based on Figure 2.4 illustrates the engagement scores of students before and after the 'MORSERIANS!' board game trial. The bottom line (blue) represents the average score per category before the trial, while the top line (orange) represents the score after. Codes a and i after ENE, DED, and ABS are initials for boys (a) and girls (i). ENE stands for Energy, DED for Dedication, and ABS for Absorption. Overall, an increase in scores is evident in all three aspects of engagement for both boys and girls. However, the increase in girls' engagement is greater than boys, with an increase of 44.8%, while boys experience a 17.1% increase. It can be observed that the smallest increase in engagement for boys is in the Dedication (DED) factor at 8.9%, while the largest increase is in the Absorption (ABS) factor at 22.5%, followed by the Energy (ENE) factor at 17.9%. For

girls, the largest increase in engagement score is in the Energy (ENE) factor at 57.1%, followed by Absorption (ABS) at 48.7%, and finally Dedication (DED) at 32.5%.

Gamification is the use of game elements in non-game products (Fridrich 2023) with the aim of enhancing user engagement (Rahman, Kodikal, and Suresh 2023b). Gamification, in its process, has been found to generate engagement for students. The gamified learning model has become one of the strategies to boost student learning motivation<sup>15</sup>. However, there may be differences in the increase in engagement between male and female students, possibly related to the compatibility of the learning media forms (board games) created for each gender. Engagement in the learning process is crucial for the achievement of learning goals, and the average engagement of female students is higher than that of males<sup>18</sup>. Based on the results of this research, it can be observed from several comments of male students,

“Scout should promote physical well-being”

“Please don’t cheat, you need to play fair.”

“Make it even more exciting, please.”

Based on the comments, it is concluded that the board game format is less suitable for the characteristics of male students. The game is perceived as less challenging, and some individuals express disappointment during defeats, often attributing instances of cheating to other groups. The board game format for male students seems unable to address cheating during gameplay. Additionally, scout activities for boys more frequently involve physical activities, while the board game format lacks physical engagement. However, the research results indicate that increased engagement reduces student boredom. There is a significant relationship between learning boredom and the sense of academic engagement. Previous studies have shown a negative relationship between School Engagement,

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<sup>15</sup> Fitri Marisa et al., “Analisis Pengaruh Motivasi Belajar Pada Pembelajaran Model Gamification Di Masa Pandemi Covid 19,” n.d. 18 Heema Parveen and Kounsar Jan, “Student Engagement- An Assessment and Comparison,” *RESEARCH REVIEW International Journal of Multidisciplinary* 8 (July 15, 2023): 145–51, <https://doi.org/10.31305/rrijm.2023.v08.n07.020>.



Academic Achievement, and Gender concerning boredom factors<sup>16</sup>. The academic engagement dimension mentioned can be categorized into three elements: Energy, Dedication, and Absorption. If student engagement increases, the likelihood of boredom decreases, and vice versa<sup>17</sup>. In contrast, for female students, there is a significant increase in engagement, amounting to 44.8%. This is in line with the positive responses in the following interviews,

"I want to play again."

"Scout activities become enjoyable without burdens."

"I don't feel lazy to participate in scout."

This means that the board game format is quite suitable for the characteristics of female students because it has a reasonably good level of acceptance in terms of energy, dedication, and absorption. Despite the different results in the increase of engagement, both male and female provide similar responses in the context of the ease of memorizing Morse Code. This is evident in the following interview responses. "Getting easier to memorize Morse Code."

"It's fun! I can play while learning."

"Fun, exciting, makes it easier to memorize Morse Code."

During the observation throughout the experiment, it was also noted that some students immediately could recall Morse code letters quickly after completing the Quest and receiving Morse Cards several times. Efforts to enhance student engagement in the learning program are crucial to recognize and implement in educational practices<sup>18</sup>.

## Conclusion

The scout program has the highest level of boredom among other nonacademic programs at SMAIT Assyifa Boarding School. Factors causing boredom in this program include fatigue, lack of motivation, and challenging learning materials. Gamification in

<sup>16</sup> Keli Souza and Helia Del Carmen Farias Espinoza, "Learning By Playing: How Gamification Can Improve Education," 2023, 664.

<sup>17</sup> Salmela-Aro and Upadyaya, "The Schoolwork Engagement Inventory: Energy, Dedication, and Absorption (EDA)."

<sup>18</sup> Rahman, Kodikal, and Suresh, "Game on: Can Gamification Enhance Productivity?"



learning media takes the form of a board game with Morse Code as a sample material, and it is offered as a strategy in this research. The validation results of the prototype indicate an increase in engagement levels by 17.1% for male students and 44.8% for female students. This aligns with Hypothesis 1 (H1) that the gamification strategy in learning media can increase student engagement. In other words, the innovation of the 'Morserians!' board game has a positive impact on addressing student boredom in non-academic programs at SMAIT As-Syifa Boarding School. However, a gamification design is needed that can detect cheating and involve gross motor skills so that engagement for male students can be further enhanced.

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