# Reducing Students' Public Speaking Anxiety with Gamification Methods

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Abstract: Fear of public speaking is a challenge for junior high school students. This study aims to reduce students' fear of public speaking through gamification. This study used a single-group pretest-posttest design with 10 students selected purposively. The instruments used included a questionnaire, a Public Speaking Anxiety Scale, and observations. This intervention used prompt cards as a game-based medium for speaking practice. Data analysis using a paired-sample t-test showed a significant difference between pretest and posttest scores, with an effect size of 1.33, which is categorized as large. These findings indicate that gamification is effective in increasing students' confidence in public speaking and can be an alternative strategy for teachers in teaching speaking skills.

## 1 INTRODUCTION

Public speaking is an important skill that needs to be developed from school age. Public speaking not only plays a role in academic success but also supports the development of self-confidence, critical thinking skills, and social communication skills. However, in reality, many junior high school students still experience anxiety when asked to speak in public. This anxiety is characterized by nervousness, fear of making mistakes, and worry about the judgment of others, which can ultimately hinder the development of students' potential.

Several previous studies have shown that public speaking training is effective in overcoming speaking anxiety. Juwito et al. (2022) reported that a training program for high school students successfully improved communication skills and personal branding. Rakhmaniar et al. (2024) also found that training through seminars, workshops, and evaluations can increase self-confidence and reduce speaking anxiety. Meanwhile, Rahman (2022) emphasized that speaking anxiety is also experienced by college students, especially individuals with introverted personalities. This indicates that speaking anxiety is a cross-level educational issue that needs to be addressed.

However, most research on the effectiveness of public speaking training still focuses on high school or college students, while studies involving junior high school students are relatively rare. This is despite the fact that junior high school is a crucial phase in psychosocial development, where students begin to build self-confidence and social identity. This situation opens up new research opportunities to examine the effectiveness of public speaking training in junior high school students as a way to prevent speaking anxiety from an early age.

Based on this, this study aims to test the effectiveness of public speaking training in reducing

public speaking anxiety in junior high school students. The results are expected to contribute to the field of educational psychology and serve as a practical reference for schools in designing learning programs that are more responsive to students' communication skills needs.

## 2 METHOD

This study used a quasi-experimental design with a one-group pretest-posttest model. The subjects were 10 junior high school students selected through purposive sampling from a public school in Surabaya. The main instrument used was the Public Speaking Anxiety Scale (PSAS) to measure public speaking anxiety levels, with high internal reliability ($\alpha > 0.90$) as supported by previous research. In addition, observations were also conducted on students' performance during public speaking to assess aspects of eye contact, intonation, and fluency. Research tools included gamification-based learning media in the form of interactive games, point cards, and roleplay sessions.

The study was conducted in three stages. First, a pretest using the PSAS was administered to all participants to measure their initial level of public speaking anxiety. Second, students participated in a gamification-based intervention, which consisted of several sessions of communicative games and speaking exercises using a point system and storytelling. The intervention lasted for one session (from 8 a.m. to 12 p.m.). During the session, researchers also observed student performance. Third, after the intervention was completed, a posttest using the PSAS was administered to measure changes in anxiety levels. Data were analyzed using a paired sample t-test using Jamovi software, and effect size (Cohen's d) was calculated to determine the strength of the intervention's influence.

## 3 RESULT

Table 1. The results of the effectiveness of using the gamification method on students' levels of public speaking anxiety

| | | | Statistic | DF | P | Mean Difference | Se Difference | | Effect Size |
|---|---|---|---|---|---|---|---|---|---|
| Pre-Test Results | Post-Test Results | Student's t | 4.21 | 9.00 | 0.002 | 8.80 | 2.09 | COHEN'S D | 1.33 |

The paired samples t-test revealed a significant difference between pre-test and post-test scores of public speaking anxiety, t (9) = 4.21, p = 0.002. The mean difference of 8.80 (SE = 2.09) shows a clear reduction in students' anxiety levels after the gamification intervention. The effect size was large (Cohen's d = 1.33), indicating that the intervention had a strong impact on lowering public speaking anxiety among the participants.

Table 2. The results of the observation

| Subjects | Eye Contact (Pre) | Eye Contact (Post) | Intonation (Pre) | Intonation (Post) | Fluency (Pre) | Fluency (Post) |
|---|---|---|---|---|---|---|
| F | Occasionally looking at the audience | Consistent and confident | Simple variations | More expressive and variative | Quite fluent although still nervous | Smooth without pause |
| G | Occasionally looking at the audience | Consistent and confident | Simple variations | More ekspresive | Quite fluent | Fluent |
| RI | Often looking down | Not looking at audience | Monoton | Lack variations | Stopped several times | Not talking |

Observational data supported these findings. The observation revealed clear differences in students' speaking performance after the gamification intervention. For instance, Student F, who initially maintained only occasional eye contact, spoke with a flat tone, and showed signs of nervousness, became more confident, demonstrating consistent eye contact, varied intonation, and fluent speech without pauses. Similarly, Student G, who previously displayed limited confidence and fluency, showed noticeable improvement in maintaining eye contact, using more expressive intonation, and delivering speech more smoothly. In contrast, Student RI did not exhibit significant progress, remaining hesitant to look at the audience, speaking monotonously, and struggling to continue. These cases illustrate that while not all students responded equally, the majority demonstrated meaningful gains in confidence, expressiveness, and fluency when speaking in front of an audience.

# 4 DISCUSSION

The results of the experimental calculations showed that the gamification intervention had a significant impact on students' public speaking. Based on field observations, this improvement was seen in aspects of courage, fluency, and non-verbal expression. Field observations also supported these results, where students who previously rarely made eye contact, spoke with monotonous intonation, or tended to be nervous, after the intervention showed positive changes in the form of increased self-confidence, intonation variation, and fluency.

These findings indicate that gamification can provide a more enjoyable and interactive learning experience, thereby reducing the psychological barrier of speaking anxiety. Students become more confident because they perceive the learning process as a game, rather than simply an academic task. This explains why more significant improvements were seen in students who previously tended to be nervous and lacked confidence.

The results of this study align with the findings of Siregar et al. (2024) who showed that gamification can increase students' motivation, engagement, and authentic speaking experience, as well as the findings of Nurjannah et al. (2021) who proved that gamification is effective in improving student learning outcomes through interactive media such as Kahoot! and Quizizz. Both studies support the

findings of this study that gamification not only helps reduce speaking anxiety but also increases students' active participation and courage in performing in public. Furthermore, research by Rahman Hz (2022) which discussed public speaking anxiety in introverted and extroverted students supports that psychological factors such as nervousness and heart palpitations affect speaking performance. The gamification intervention in this study was proven to be able to reduce these anxiety symptoms, even in relatively younger junior high school students.

These findings are also consistent with research by Almadina Rakhmaniar et al. (2024) and Subhan and Azis (2023), which demonstrated that public speaking training using interactive approaches such as workshops and storytelling can increase students' self-confidence. The difference is that this study adds a novel element in the form of gamification, which has not been widely applied in junior high school subjects, thus expanding the evidence for the effectiveness of creative methods in public speaking learning.

Thus, it can be concluded that gamification intervention is effective in improving junior high school students' public speaking skills. These results not only support experimental and observational data but also reinforce previous literature that motivation, anxiety, and practice methods play a significant role in developing public speaking skills.

## 5 CONCLUSIONS AND SUGGESTIONS

This study demonstrates that a roleplay and storytelling-based gamification intervention is effective in reducing public speaking anxiety in junior high school students. This effectiveness is reflected in the increase in PSAS scores after the intervention, as well as field observations showing improvements in students' speaking confidence, eye contact, intonation, and fluency. These findings confirm that the gamification approach not only creates a fun learning environment but also positively impacts students' communication skills.

Thus, gamification can be considered as an alternative strategy for training public speaking skills among adolescents. Future research could expand the scope of subjects, use more complex experimental designs, or compare the effectiveness of gamification with other intervention methods to strengthen the generalizability of these results.

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