

DEVELOPMENT OF THE STORY OF SCHOOL EDUCATIONAL GAME TO ENHANCE CAREER EXPLORATION AMONG JUNIOR HIGH SCHOOL STUDENTS IN MALINAU KOTA DISTRICT

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ARTICLE HISTORY

Received : 20-05-2026

Revised : 27-06-2026

Accepted : 30-06-2026

KEYWORDS

Educational Game Media;
Story of School;
Career Exploration;
RPG Maker MV;
Guidance and Counseling;

ABSTRACT.

Career exploration is an important developmental task for junior high school students, yet guidance and counseling services are often limited by the lack of innovative learning media. This study aimed to develop the Story of School educational game as a medium for career guidance and to examine its feasibility, practicality, and effectiveness in improving students' career exploration. The study employed a Research and Development (R&D) approach adapted from the Borg and Gall model. Participants consisted of 56 eighth-grade students from SMP Negeri 1 Malinau Kota and SMP Negeri 3 Malinau Kota, North Kalimantan, Indonesia. Data were collected through expert validation sheets, student response questionnaires, and a career exploration scale, then analyzed using descriptive quantitative techniques, the Wilcoxon Signed-Rank Test, and N-Gain analysis. The findings showed that the Story of School game was highly feasible and received very positive student responses. The effectiveness test also indicated a significant improvement in students' career exploration, with a significance value of 0.000 and an N-Gain score in the moderate category. These findings suggest that interactive game-based media can support more engaging guidance and counseling services in junior high schools.

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INTRODUCTION

Career exploration is an essential developmental process that helps adolescents understand their interests, abilities, values, and future aspirations. Through career exploration activities, students are encouraged to gather information about educational opportunities and occupational alternatives while developing self-awareness regarding their personal potential. This process plays an important role in helping students make more informed educational and vocational decisions (Blustein, 1988; Greenhaus & Callanan, 2006). Students who actively engage in career exploration tend to demonstrate greater confidence and readiness in planning their future careers (Esters, 2008; Vignoli, 2015).

The importance of career exploration becomes increasingly significant during the junior high school years. Adolescence represents a transitional stage in which students begin to formulate educational aspirations and initial career preferences. Effective career exploration experiences at this stage can help students develop realistic educational and career goals while reducing uncertainty regarding future choices (Arrington, 2000; P. E. Faulkner et al., 2006). Therefore,

guidance and counseling services in schools have a strategic role in facilitating students' career development through structured exploration activities.

Previous studies have emphasized the importance of career exploration in supporting students' career development. Purwanta (2012) found that career exploration behavior among junior high school students is influenced by access to information and environmental support. Similarly, Rojewski et al. (2014) reported that participation in school-based career exploration activities contributes positively to students' understanding of educational and occupational opportunities. Other studies also showed that career exploration is closely related to career adaptability, career certainty, and decision-making readiness among adolescents (Lee et al., 2016; Li et al., 2015).

Despite its importance, the implementation of career exploration among junior high school students still faces several challenges. Preliminary studies conducted at SMP Negeri 1 Malinau Kota and SMP Negeri 3 Malinau Kota revealed that many students had difficulty identifying their interests, talents, educational pathways, and future career alternatives. Students also showed limited understanding of the relationship between personal characteristics and career choices. In addition, interviews with guidance and counseling teachers indicated that guidance and counseling services were still dominated by conventional media such as brochures, posters, leaflets, and information boards, which tended to encourage passive participation among students.

The rapid development of digital technology offers opportunities to create more interactive and student-centered guidance and counseling services. Technology-based learning media have been recognized as effective tools for increasing student engagement and participation in learning activities (Ifenthaler et al., 2021; Raja & Nagasubramani, 2018). One form of digital media that has gained considerable attention is educational games. Educational games allow students to participate actively in exploration, problem-solving, and decision-making activities through interactive experiences (Gee, 2003). In the context of career guidance, game-based media may help students explore educational pathways, understand career information, and evaluate future choices in a more engaging and meaningful way.

Although previous studies have reported the positive contribution of career exploration programs and digital learning media to students' career development (Purwanta, 2012; Rojewski et al., 2014; Wong, 2020), research specifically focusing on interactive educational games for supporting career exploration among junior high school students remains limited, particularly within guidance and counseling services in Indonesian schools. Therefore, this study developed the Story of School educational game using RPG Maker MV as an innovative medium for career guidance. Unlike conventional career information media, the developed game integrates self-understanding activities, educational pathway exploration, career information, and decision-making simulations into a single interactive environment.

Based on these conditions, the research problem of this study is whether the Story of School educational game is feasible, practical, and effective for improving career exploration among junior high school students. Therefore, this study aimed to develop the Story of School educational game and evaluate its feasibility, practicality, and effectiveness in supporting students' career exploration in Malinau Kota District. The findings of this study are expected to contribute to the development of innovative guidance and counseling media and provide practical alternatives for guidance and counseling services in schools.

METHOD

This study employed a Research and Development (R&D) approach using the Borg and Gall development model (Borg & Gall, 1983) to develop an educational game entitled Story of School as a medium for enhancing career exploration among junior high school students. The development process consisted of ten stages, including research and information gathering, planning, product development, validation, field testing, revision, and dissemination. The study was conducted at SMP Negeri 1 Malinau Kota and SMP Negeri 3 Malinau Kota, North Kalimantan, Indonesia.

The development procedure adopted the ten stages of the Borg and Gall model, including research and information gathering, planning, preliminary product development, preliminary field testing, product revision, main field testing, operational product revision, operational field testing, final product revision, and dissemination. The initial stage involved a needs assessment through literature review, school observations, interviews with guidance and counseling teachers, and analysis of students' career exploration needs. The findings indicated that students experienced difficulties in understanding their interests, abilities, educational opportunities, and career alternatives, while teachers reported limitations in using innovative media during guidance and counseling services. Based on these findings, the Story of School educational game was developed using RPG Maker MV and designed as a school-life simulation integrating career exploration materials into interactive gameplay activities.

The developed product was evaluated through expert validation, limited field testing, and operational field testing. Expert validation involved one material expert, one media expert, and one guidance and counseling practitioner. The material expert assessed the suitability and accuracy of the career guidance content, while the media expert evaluated aspects related to interface design, functionality, and usability. The guidance and counseling practitioner assessed the relevance of the game for counseling services and student characteristics. Validation data were collected using questionnaire instruments based on a Likert scale ranging from 1 to 5, covering aspects of content feasibility, media presentation, usability, language, and instructional quality.

The effectiveness testing involved 56 eighth-grade students, consisting of 32 students from SMP Negeri 1 Malinau Kota and 24 students from SMP Negeri 3 Malinau Kota. The product trial used a one-group pretest–posttest design in which students completed a career exploration scale before and after using the educational game. In addition, student response questionnaires were administered to measure the practicality and students' perceptions of the developed product. The one-group pretest–posttest design was selected because it allowed researchers to measure changes in students' career exploration after the intervention; however, this design has limitations related to internal validity because it does not involve a control group for comparison.

The collected data were analyzed using descriptive quantitative techniques to determine the feasibility and practicality of the developed product. The effectiveness of the educational game was analyzed using the Wilcoxon Signed-Rank Test to identify differences between pretest and posttest scores (Sugiyono, 2016). Furthermore, the normalized gain (N-Gain) score was calculated to determine the magnitude of improvement in students' career exploration after using the Story of School educational game (Hake, 1998).

RESULTS AND DISCUSSION

RESULTS

The development of the Story of School educational game was initiated through a needs assessment involving literature review, observations, interviews with guidance and counseling teachers, and an analysis of students' career exploration needs. The findings indicated that many students experienced difficulties in understanding their interests, abilities, educational opportunities, and future career alternatives. This condition reflects the importance of career exploration during adolescence, as students are expected to develop self-understanding and acquire information related to future educational and occupational opportunities (Anwar, 2017; Purwanta, 2012). Based on these findings, the Story of School educational game was developed using RPG Maker MV and designed as a school-life simulation integrating career exploration content into interactive gameplay activities.

Following the development stage, the product underwent expert validation to determine its feasibility as a medium for guidance and counseling services. The validation process involved a material expert, a media expert, and a guidance and counseling practitioner. The results of the expert validation are presented in Table 1.

Table 1. Expert Validation Results of the Story of School Educational Game

Validator	Percentage (%)	Category
Material Expert	94.64	Very Feasible
Media Expert	96.88	Very Feasible
Practitioner Expert	93.75	Very Feasible

Source: Expert Validation Data Processed by the Authors (2026).

As shown in Table 1, the material expert assigned a score of 94.64%, the media expert awarded 96.88%, and the guidance and counseling practitioner provided 93.75%. These results indicate that the developed educational game achieved a very high level of feasibility. The findings demonstrate that the game successfully integrated career exploration content with interactive digital media and met the requirements for implementation in school guidance and counseling services.

After the revision process, a field trial was conducted to evaluate the practicality of the developed game from the students' perspective. Students were asked to assess the game based on its attractiveness, ease of use, clarity of information, and usefulness in supporting career exploration activities.

Table 2. Student Practicality Assessment

Aspect	Percentage (%)	Category
Overall Practicality	98.78	Very Practical

Source: Student Response Questionnaire Data Processed by the Authors (2026).

The results presented in Table 2 indicate that the Story of School educational game obtained a practicality score of 98.78%, which falls within the very practical category. Students reported that the game was easy to use, visually attractive, and helpful in understanding career-related information. These findings suggest that the game was well accepted by students and provided an engaging learning environment that supported career exploration activities.

To examine the effectiveness of the developed product, a one-group pretest–posttest design was employed. Career exploration is closely associated with students' efforts to obtain information about themselves and the world of work in preparation for future career decisions (Brown & Lent, 2005; Sharf, 2013). The Wilcoxon Signed-Rank Test was used to determine whether there were significant differences between students' career exploration scores before and after using the educational game.

Table 3. Wilcoxon Signed-Rank Test Results

	Posttest-Pretest
Z	-6.521 ^b
Asymp. Sig. (2-tailed)	.000

Source: Wilcoxon Signed-Rank Test Results Processed by the Authors (2026).

As shown in Table 3, the analysis produced a significance value of 0.000, which is lower than the significance level of 0.05. This finding indicates a statistically significant difference between students' pretest and posttest scores. Therefore, the results suggest that the implementation of the Story of School educational game contributed positively to the improvement of students' career exploration.

To determine the magnitude of improvement, an N-Gain analysis was conducted. The results are presented in Table 4.

Table 4. N-Gain Analysis Results

	N	Minimum	Maximum	Mean	Std. Deviation
Gain	56	.38	1.00	.5811	.19152
Valid N (listwise)	56				

Source: N-Gain Analysis Results Processed by the Authors (2026).

The results in Table 4 show that the educational game achieved an N-Gain score of 0.5811, which falls within the moderate category. This finding indicates that the Story of School educational game produced a meaningful improvement in students' career exploration. The result also suggests that integrating career exploration materials into an interactive digital game can facilitate students' engagement in career learning activities and support the development of career-related knowledge and understanding (Gee, 2003; Wong, 2020).

DISCUSSION

The results of this study indicate that the Story of School educational game was feasible, practical, and effective as a medium for supporting career exploration among junior high school students. The high validation scores provided by experts and practitioners demonstrate that the developed game fulfilled important aspects of career guidance media, including content relevance, usability, instructional quality, and media presentation. This finding suggests that the integration of career guidance materials into interactive digital media may provide a more relevant learning experience for students who are already familiar with technology-based activities in their daily lives.

Students also showed highly positive responses toward the implementation of the educational game. The high practicality score indicates that students were able to use the game easily and engage actively throughout the learning process. One aspect that may have contributed to this result was the use of narrative-based gameplay and role-playing activities that allowed students to experience simulated situations related to educational and career choices. Rather than receiving information passively, students were encouraged to explore school environments, interact with virtual characters, complete missions, and make decisions connected to future educational pathways. These interactive experiences may explain why students perceived the game as interesting and meaningful for career exploration activities. Raja & Nagasubramani (2018) explained that technology-based learning media may create more active and meaningful learning experiences. Similarly, Gee (2003) emphasized that digital games support learning through direct interaction and experiential engagement.

The effectiveness test also demonstrated that the educational game contributed positively to improving students' career exploration. The significant difference between pretest and posttest scores indicates that students experienced

changes in their understanding of personal potential, educational opportunities, and future career alternatives after using the game. In addition, the moderate N-Gain score suggests that the developed media was able to facilitate meaningful learning improvement, although the level of improvement varied among students. This condition may be influenced by differences in students' initial understanding, learning motivation, and participation during gameplay activities.

The improvement in career exploration may also be associated with the design characteristics of the Story of School educational game. The game combined career information, self-understanding activities, and decision-making simulations within a school-life context that was familiar to students. This design allowed students to connect the learning experience with situations they commonly encounter in everyday school life. Brown & Lent (2005) explained that career exploration involves efforts to understand personal characteristics and obtain information related to future careers. Through interactive exploration and simulated decision-making activities, students were encouraged to become more active in identifying their interests, abilities, and educational opportunities. In line with this view, Sharf (2013) stated that career exploration during adolescence is important because students begin developing awareness of educational and occupational choices that may influence their future careers.

The findings of this study are also consistent with previous studies reporting that digital games and gamification can increase students' motivation and engagement in learning activities (Gee, 2003; Wong, 2020). Faulkner, P. E., et al. (2006) also emphasized that career exploration activities at the middle school level are important for helping students develop awareness of future educational and occupational opportunities. Therefore, the use of educational games in guidance and counseling services may provide an alternative strategy for creating more engaging, student-centered, and interactive career guidance activities in schools.

Despite the positive findings, this study has several limitations. The effectiveness test used a one-group pretest-posttest design without a control group, which limits the ability to compare the intervention results with other learning conditions. In addition, the study involved a relatively limited number of participants from two schools in Malinau Kota District, so the findings may not fully represent students from different educational contexts. Therefore, future studies are recommended to involve larger samples, apply experimental designs with control groups, and examine the long-term effectiveness of educational games in supporting guidance and counseling services.

CONCLUSION

The findings of this study show that the Story of School educational game is feasible, practical, and effective as a medium for guidance and counseling services for junior high school students. The validation results from experts and practitioners indicate that the developed game met the required standards in terms of content, instructional aspects, usability, and media presentation. In addition, students responded positively to the implementation of the game, showing that the media was attractive, easy to use, and appropriate for career guidance activities in schools.

The effectiveness test demonstrated a significant improvement in students' career exploration after using the educational game. The difference between pretest and posttest scores, supported by the moderate N-Gain result, indicates that the Story of School educational game contributed positively to students' understanding of personal potential, educational opportunities, and future career alternatives. These findings suggest that interactive game-based media may help guidance and counseling teachers provide more engaging, student-centered, and meaningful guidance and counseling services in schools, particularly in supporting students' career awareness and exploration activities.

This study was limited to two junior high schools and involved a relatively small number of participants. Furthermore, the research focused only on career exploration and did not examine the long-term impact of the game on students' career decision-making and career planning abilities. Therefore, future studies are recommended to involve more diverse school contexts and larger research participants in order to strengthen the generalizability of the findings. Further development of the educational game may also include more varied interactive features, broader career materials, and additional simulation activities to support the implementation of digital-based guidance and counseling services in schools.

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