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ARTICLE

Improving EFL Learners' Affective Skills Through the Use of Digital Game-Based Learning.

Sri Wahyuni, Nico Irawan,* Abd Ghofur, and Agung Pramujiono

Master of English Language Education, Faculty of Teaching, Universitas PGRI Adi Buana Surabaya, Indonesia
*Corresponding author: nicoirawan@unipasby.ac.id

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Abstract

This research explores how digital game-based learning models work in EFL classrooms to develop affective competencies among learners and evaluates their effectiveness. The research also investigates the obstacles that emerged during its execution. The main objective of the game-based intervention focused on developing affective competencies among students during their English language learning process. The research used classroom action research to study 36 high school students in Surabaya through interviews and questionnaires. The research shows that digital games in classroom teaching boost student affective engagement while making learning more enjoyable and motivating. The research shows that game selection remains a challenge because it requires matching games to instructional targets and teachers need specialized training to execute the approach effectively. The research findings offer essential knowledge to educational institutions and teachers about digital games as tools to enhance emotional student involvement in language education and improve educational quality.

Keywords: Action Research, Digital Game-based learning, EFL Learners, Real Affective Competence.

1. Introduction

Since the last few decades English as a Foreign Language (EFL) education has moved from a focus on cognition and language only to embrace affective skills such as motivation, self-efficacy, interest, and attitudes towards learning. The affective factors play a crucial role in language acquisition because learners' emotional involvement affects their persistence, willingness to communicate, and academic success. Traditional classroom practices fail to nurture these affective factors and hence EFL learners often become disengaged, lose motivation, and develop anxiety. To address this educators and researchers have embraced new pedagogical approaches that target both linguistic competence and affective development. The presence of a professional educator is essential to ensure that the learning process is effective and results in high-quality student outcomes. In addition to the teacher's role, active participation from students is equally important in achieving meaningful learning. [1] emphasize that a successful educational process depends on various supporting factors, including

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adequate facilities, well-prepared teaching materials, practical instructional methods, appropriate learning models, a conducive school environment, and comprehensive evaluations conducted by teachers.

One of the promising methods is Digital Game-Based Learning (DGBL) which combines the motivational aspects of games with educational objectives. Digital games by their nature are interactive, immersive, and engaging, providing learners with a safe space to experiment, work together, and learn from their errors. Through DGBL EFL learners can engage in language practice in real-life scenarios while developing affective skills like resilience, teamwork and self-regulation. Given the omnipresence of digital technologies in students' everyday activities, using game-based environments matches contemporary learners' tastes and ways of learning, making it an appropriate and effective educational strategy. Teachers are expected to integrate multimodal media in the learning process to prevent lessons from becoming monotonous or disengaging for students. In today's digital age, numerous technological tools have been developed to enhance the effectiveness of education ([2]).

Among these, online games have gained popularity, particularly among students. While often viewed as a source of entertainment, online games also offer valuable opportunities for teachers to facilitate various instructional activities, including English language learning. Research has shown that incorporating games into classroom instruction can significantly enhance learning outcomes and student engagement ([3]). Through game-based learning, whether digital or non-digital, students can develop both conceptual understanding and new skills ([2]). Thus, adopting a game-based approach in educational settings can serve as an effective strategy for improving student performance and enriching the overall learning experience. Research has been accumulating regarding the application of DGBL in language education which demonstrates its positive impact on vocabulary acquisition, grammar practice, reading comprehension, and listening skills. Various studies have highlighted the motivational aspects of DGBL by demonstrating learners' higher engagement and participation rates when using game-based instruction. Most existing research on DGBL has concentrated on cognitive and linguistic outcomes but the systematic study of affective skills development remains understudied.

Several studies have identified positive impacts of DGBL on learners' motivation and attitudes but they commonly position these outcomes as supplementary rather than primary research targets. The existing research fails to provide sufficient understanding of how digital games can be strategically designed to specifically enhance affective skills in EFL teaching settings. This lack of research is especially important since affective skills serve as essential components for maintaining long-term language learning achievements and helping learners achieve real-world communication. Game-based learning effectively integrates educational goals with instructional content. As [4] and [5] noted, this approach can lead to several positive learning outcomes, such as positioning students at the center of the learning process, simplifying complex material, increasing student interest, and fostering enjoyment during lessons. These benefits highlight the Games' potential as an effective teaching tool.

According to [6], games are highly effective because they support active, multimodal, experiential, and problem-based learning and prompt students to recall and apply prior knowledge to progress in the game. Moreover, games provide immediate feedback, allowing learners to reflect on their performance and improve. This feedback loop encourages self-assessment and supports deeper learning. Additionally, games can foster new social dynamics in the classroom, promoting interaction and collaboration among learners. Game-based learning is one of the most effective methods for enhancing students' problem-solving abilities. [7] emphasize that interactive learning deepens students' understanding of content and strengthens their cognitive skills in addressing complex problems. Problem-solving is essential for navigating real-world challenges, and game-based instruction supports this

by integrating multiple skill sets into the learning experience. In support of this, [4] found that students who engage with educational games tend to achieve more significant academic improvement across various subjects, including language comprehension, than those who do not use such tools. Thus, incorporating games into educational settings can align student engagement and instructional goals. Learning through play also encourages creativity, coordination, and active participation.

The potential of DGBL to improve affective skills of EFL learners has not been sufficiently documented despite its established role in linguistic proficiency enhancement. The absence of empirical research focused on this dimension prevents educators from incorporating DGBL effectively into their curricula for affective development. Therefore, there is a critical need to determine how DGBL can be utilized to improve learners' motivation, confidence, attitudes, and emotional engagement in EFL learning. This study is particularly compelling because it uses classroom action research to examine the role of digital games in English language learning, specifically exploring how such tools influence student motivation and affective competence. It also highlights several important aspects: (a) game-based learning offers an innovative alternative to conventional instructional methods by infusing fun and interactivity; (b) it aligns with the needs of today's digitally native learners; and (c) it has the potential to drive meaningful changes in educational practices and outcomes.

2. Methods

2.1 Research Design

The study used classroom action research (CAR) because it needed to test a pedagogical intervention in a real classroom environment. CAR was appropriate because it addressed both practical classroom issues and allowed for systematic assessment of DGBL's impact on affective skills development. The research followed the cyclical process of planning, action, observation, and reflection to ensure continuous improvement of instructional practices. This study employed a Classroom Action Research approach, which educators and practitioners widely use to explore and improve teaching practices in response to specific challenges encountered in the classroom. Action research enables teachers to investigate real-time problems and implement strategies that promote more dynamic and effective learning environments. Without appropriate interventions, classroom conditions can become stagnant and hinder student engagement. Achieving instructional goals requires establishing a dynamic and supportive learning environment. This aligns with Valsa (2005), who highlights that when the classroom environment is dynamic and attentive to students' needs, they become more engaged in learning.

2.2 Participants

The study involved 36 high school students from Surabaya Indonesia who were taking English as a Foreign Language (EFL) class. The participants were between 15 and 17 years old and had diverse proficiency levels from lower-intermediate to upper-intermediate. The class was chosen because the teacher wanted to use DGBL and the school had the required technology. The classroom teacher participated as a co-researcher to help with the intervention and reflective process.

2.3 Data Collection

The data in this research were collected through both primary and secondary sources. The primary data included direct observations and interviews with students at the research site, providing first-hand insight into classroom interactions. According to [8], primary data in educational research often reflects participants' opinions, behaviors, and experiences. Supporting data consisted of literature such as scholarly articles, textbooks, and related studies that supported the analysis. The study was conducted in three cycles, comprising two sessions. This cyclical structure aligns with the ac-

tion research model developed by [9], which includes the stages of planning, action, observation, and reflection arranged in a continuous spiral. [10] supports this view by describing action research as a flexible and iterative process where these four components interact dynamically to achieve progressive improvement in classroom practice. The spiral model can be illustrated as follows:

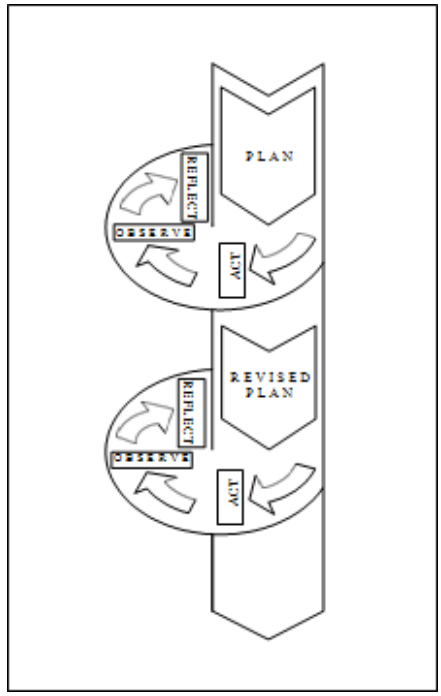

Figure 1. Kemmis and McTaggart's action research paradigm

The researcher began by identifying existing issues within the classroom, specifically focusing on challenges related to the affective domain in English language instruction. To diagnose these problems, data were gathered through observations and interviews with students. This process aligns with the initial stage of classroom action research, which involves problem identification and the development of an action plan ([9]). The study followed a structured action research cycle of planning, implementation, observation, and reflection. During the planning phase, the researcher developed a comprehensive lesson plan outlining the selected topic, instructional materials, digital game-based media, time allocation, scheduling, and observation instruments. Based on the plan, the teaching activities were carried out in the implementation stage. The observation phase involved the researcher and a collaborator monitoring and documenting significant events during the learning process. The collaborator contributed feedback to enhance instructional delivery. The reflection stage entailed analyzing the effectiveness of the lesson plan, noting its strengths and limitations, and evaluating how the integration of digital games influenced students' affective engagement. The researcher used this reflection to guide decisions for subsequent cycles, consistent with [11] and [9] models of action research.

2.4 Data Analysis

The researchers used descriptive statistics (mean, percentage change, and standard deviation) to analyze questionnaire data and determine affective skills improvements before and after the intervention. The researchers applied Braun and Clarke's (2006) thematic analysis framework to analyze interview transcripts and observation notes and reflective journals to identify recurring themes

about motivation and engagement and emotional responses. The combination of quantitative and qualitative findings enabled researchers to validate their results through triangulation.

Table 1. Standard of Mean

Main Range	Interpretation
3.68 – 5.00	A high level of drive
2.34 – 3.67	A reasonable amount of motivation
1.00 – 2.33	Low level of drive

3. Results and Discussion

Implementing a game-based learning model can enhance students' affective competencies in English as a Foreign Language (EFL) classrooms. The student learning motivation questionnaire results revealed a noticeable improvement in several factors influencing learners' affective competence during English language instruction. Students showed greater excitement and active participation in class activities, strengthening their motivation to learn English. This improvement was noticeable throughout the teaching and learning process. The progression in motivation was particularly observable across the three cycles of the classroom action research, with Cycle III showing a significant and optimal improvement compared to the previous cycles. These findings align with [12] view that motivation is critical in second language acquisition, especially sustaining student engagement over time.

After thoroughly analyzing the collected data—including interviews, observation sheets, student questionnaires, and lesson plans—the researcher concluded that the integration of game-based learning contributed substantially to enhancing students' affective competencies in the EFL classroom. Games helped create an engaging, supportive, and interactive learning environment, fostering emotional connection and positive attitudes toward learning. As [13] supported, emotional and motivational factors are essential components in successful language learning, and interactive methods such as game-based learning can significantly help the development of these affective traits. The increase in each factor affecting the average student's learning motivation can be illustrated in the diagram below.

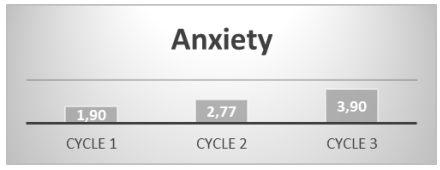

Figure 2. Individual Factor: Anxiety

The instrument used in this study is a 5-point Likert Scale adapted from the Likert Scale format of Gardner's Attitude / Motivation Test Battery (AMTB), which ranged from strongly agree to strongly disagree (Gardner, 2004). The questions used in the questionnaire were also adapted from Ardner's Attitude / Motivation Test Battery (AMTB) to gather information about affective factors. In cycle I, the average scale results showed high student anxiety in learning English. Through interview results, it was found that the cause of learning anxiety was due to a lack of vocabulary. As a result, students feared making mistakes and felt embarrassed in front of their peers if they answered incorrectly in English class. After implementing the learning activities with the game-based learning method,

better results were observed in cycle 2: 2,77. The students' anxiety index decreased, and they were more enthusiastic about learning. The index in cycle 3 shown is 3.9, which means a high degree of motivation.

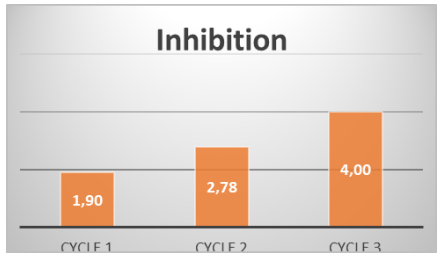

Figure 3. Individual Factor: Inhibition

Students have to take a reasonable risk of being wrong during the learning process to sense the experience of their mistakes (Bao Liu, 2021). As children's affective behaviors take shape, inhibition occurs as they learn to recognize a different self. The vast consciousness shields the delicate ego from harm when affective behavior starts to take shape. In cycle 1, the Standard Mean for student inhibition scored 1.9, indicating low motivation. The score in cycle 2 is 2,78. Cycle 2 showed better results in the inhibition factor after game-based learning was implemented. The student's emotions are better. Feu and Fergusson claimed that developing an emotive framework can make students feel more at ease while learning a foreign language for the first time (Arnold, 1999). To achieve this, language instructors must foster an environment of acceptance that will boost students' self-esteem and motivate them to explore their linguistic objectives by taking chances without fear of embarrassment. In cycle 3, the score increases from 2,78 to 4,00. It means that the student has a high degree of motivation.

Figure 4. Individual Factor: Introvert/Extrovert

Sometimes, a false association is made between introversion and inhibition. It's common to generalize extroverts as gregarious and talkative. Because extroverts are more inclined to speak out, interact in class, and look for practice changes, they are better language learners. Conversely, introverts are viewed as "not good language learners" due to their tendency towards self-control and reserve. This agrees with Arnold, who said that more vocal children may speak the language more fluently. Similarly, Indonesian teachers honor students who dare to use English in class (Arnold, 1999). The data in cycle 1 show a low mean for introvert/extrovert factors in learning English. This is because, at the end of the game-based learning process, students must be more active in activities. As a result, introverted students can be encouraged to be more active. This is shown by the rising score graph in cycle 2. In cycle 1, the Standard of Mean scored 1.7 (low degree of motivation); in cycle 2, it increased to 2,50; in cycle 3, it increased to 4.1 (high degree of motivation).

Kavitha (2020) defined self-esteem as the set of evaluative attitudes that a person has about themselves. In learning using the game-based method, students will strive to become winners to maintain their self-esteem. Of course, this is evident from the data increase in cycle 1, cycle 2, and cycle 3.

Figure 5. Individual Factor: Self-Esteem

The data in cycle 1 rapidly increases in each cycle. In the last cycle, the evaluative attitude showed a high level. That is 4,28.

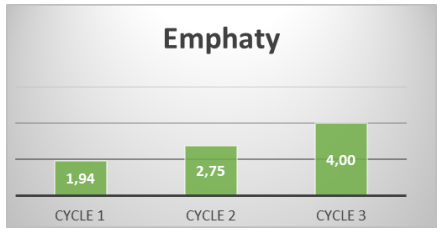

Figure 6. Relational Factor: Empathy

Empathy and language learning performance are correlated (Arnold, 1999). Empathy is one of the most crucial elements that must be present in the learning process because it teaches students to be less self-centered, to think that what happens to others will also happen to us, to value diversity, and to address problems that arise in the classroom. It will benefit language learning if teachers use empathy when engaging with students. In cycle 3, the results still showed a low degree of motivation. However, in cycle 3, the data indicated an increase to 4.2. Students' emotions are more engaged when they learn while playing games. When someone shares another person's emotions, it is known as affective empathy or shared emotional reaction.

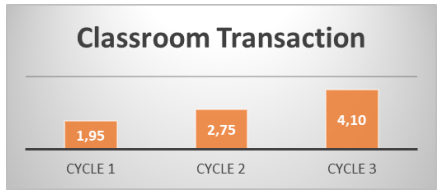

Figure 7. Relational Factor: Classroom transaction

The data results in cycle 1 show a score of 1.95. This means that the school transaction factor in the English class is classified as low. This result is due to the students still being unfamiliar with the method used by the researcher in this assessment. The author made improvements in cycle 3, resulting in an optimal score of 4.1 in cycle 3. Classroom transactions directly impact student behavior and participation in classroom activities. As a result, teachers must be able to develop learning strategies that can help long-term relationships with students and between students themselves to bring about more positive relationships. To achieve effective class transactions, quality relationships should be built.

Students must be able and willing to adopt several behavioral traits, particularly verbal ones, that define members of the other linguistic-cultural group to acquire a second language successfully; this can lead to emotional disturbances (Lamberta, 1999). In cycle 1, students were still adapting to the

Figure 8. Relational Factor: Cross-cultural factors

environment, classmates, and teacher, so the results were not yet maximal. In cycle 2, the results showed improvement because the students had started to get used to the environment and culture in the class. Game-based learning facilitated understanding of each student's cultural character, making it easier for them to understand their friends. In Cycle 3, the results reach a high degree because the knowledge of cultural character was built in the classroom. Based on the Classroom Action Research (CAR) findings and the subsequent analysis, it can be concluded that implementing a game-based learning model contributes significantly to enhancing the affective competence of EFL learners. Improvements were evident across the three research cycles (Cycle I, II, and III), as shown by the progressive increase in data related to the affective components influencing English language learning. These gains were especially noticeable in two areas: relational variables, including empathy, classroom engagement, and cross-cultural awareness, and individual factors, such as anxiety, inhibition, extroversion/introversion, and self-esteem. These elements align with what [14] identifies as critical affective variables in second language acquisition, directly influencing student engagement and emotional learning readiness.

The increase in each affective component was quantitatively supported by the questionnaire results across the research cycles, with Cycle III showing the most optimal development. The findings are also consistent with [13], who emphasize that emotional factors such as motivation, anxiety, and self-confidence significantly affect language learning outcomes. However, the researcher encountered several challenges throughout the implementation process, particularly regarding pedagogical adjustments and the need to enhance the teacher's professional competencies in managing game-based instructional strategies. These challenges reflect what [15] describe as part of the natural progression of teacher development when adopting new and innovative teaching models.

3.1 Obstacles and constraints in applying digital game-based learning to enhance affective competencies in EFL classrooms

The findings of this study indicate that implementing digital game-based learning (DGBL) strategies can effectively improve the affective competence of EFL learners. Through engaging and interactive activities, students showed increased motivation, emotional involvement, and positive attitudes toward English learning. However, the application of game-based learning in the classroom presented several challenges, particularly in the pedagogical domain. One of the key difficulties encountered by the researcher was selecting appropriate games that aligned with curriculum goals and were suitable for the specific text genre materials commonly taught at the high school level. According to [16], a game's educational value is determined by its content and how well it fits the instructional context and learning objectives.

Other obstacles included the technical and logistical demands of game selection—such as determining the appropriate duration of play, ensuring clarity in instructions, and making the content accessible to all students. As [7] noted, integrating games into lesson plans requires teachers to act as both designers and facilitators, demanding careful preparation to ensure a seamless transition between game-based and traditional instruction. Furthermore, the researcher recognized the need

for professional development, including workshops and training sessions focused on pedagogical approaches, technical proficiency, and assessment techniques related to DGBL. As [17] emphasized in their TPACK framework, effective technology integration in education requires the intersection of content knowledge, pedagogy, and technology. The researcher also noted the importance of continuously sourcing diverse and engaging game content to maintain students' motivation throughout the learning process. Sustaining interest and emotional engagement is critical for long-term affective development in language learning ([18]).

4. Conclusion

Applying a game-based learning paradigm has a good impact on EFL learners' affective competence, according to the results of the Classroom Action Research (CAR) and the analysis presented. The components that affect successful learning in English classrooms have gradually increased throughout the three research cycles (Cycle 1, Cycle 2, and Cycle 3). According to the research, there has been a notable improvement in relational and individual affective components, including empathy, student interaction, cross-cultural awareness, personality-related attributes like extroversion and introversion, anxiety reduction, decreased inhibition, and elevated self-esteem. The detailed outcomes of these affective improvements, remarkably the comparison between Cycle 1 and Cycle 3, are documented in the questionnaire results and reflect measurable progress in students' emotional engagement and classroom participation. Despite these successes, the researcher encountered several challenges during the implementation process. The primary difficulties were pedagogical, particularly in aligning game content with curriculum objectives, and in the need for the researcher, who also serves as the English teacher, to enhance their professional competencies in planning, integrating, and facilitating game-based instructional strategies.

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