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| RESEARCH ARTICLE

The Impact of Integrating Various Digital Games in EFL Classrooms on Soft Skills Development

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| ABSTRACT
It is axiomatic that research in the broader field of educational technology has highlighted the capacity of digital games to engage students actively in the learning process, promoting motivation and facilitating knowledge retention. However, the specific impact of digital games on soft skills development within EFL contexts remains an underexplored area. Hence, this article investigates the impact of integrating diverse digital games into EFL classrooms on the development of soft skills among Moroccan EFL students. This quasi-experimental longitudinal study aimed to investigate the relationship between participation in an online gaming club and the development of soft skills, specifically English communication skills and critical thinking skills, over a six-month period. The hypothesis posited that engaging in online gaming activities would lead to improvements in both English communication skills and critical thinking skills among participants. The findings suggested that engagement in online gaming has a positive impact on the development of soft skills such as English communication skills and critical thinking skills. The study contributes to the broader discourse on innovative pedagogical approaches in EFL contexts, shedding light on the potential of digital games as effective tools for fostering essential skills beyond language proficiency. The implications of the research extend to educators, curriculum designers, and policymakers seeking to enhance the holistic development of students in EFL classrooms.

| KEYWORDS

Digital games, EFL classrooms, soft skills, education, development.

| ARTICLE INFORMATION

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1. Introduction

The integration of digital games into educational settings has been a subject of growing interest in the literature, reflecting the recognition of the potential benefits these tools can offer in fostering a range of skills beyond mere subject proficiency. Research in the broader field of educational technology has highlighted the capacity of digital games to engage students actively in the learning process, promoting motivation and facilitating knowledge retention (Gee, 2003; Prensky, 2001). However, the specific impact of digital games on soft skills development within EFL contexts remains an underexplored area.

Soft skills, encompassing communication, collaboration, critical thinking, and problem-solving, are increasingly acknowledged as pivotal for success in diverse professional and social contexts. Existing literature underscores the importance of integrating these skills into educational curricula to prepare students for the demands of the 21st-century workforce. While conventional pedagogical approaches often prioritize language proficiency, the evolving educational landscape recognizes the need for a holistic approach that nurtures both linguistic and soft skills competencies (Rao, P. S. 2019).

The study conducted by the researchers at Omar Elkhayam High School in Taza, Morocco, aligns with this evolving perspective, focusing on the potential synergy between digital games and the development of soft skills in EFL students. The chosen soft skills—

communication and critical thinking —are deemed essential not only for effective language use but also for navigating the complexities of a globally connected and technologically advanced world (Trilling & Fadel, 2009).

2. Literature Review

2.1. Overview of Digital Games in Education

The incorporation of digital games into education has witnessed a transformative shift in pedagogical practices, offering a dynamic and interactive approach to learning. Scholars such as James Paul Gee (2003) and Marc Prensky (2001) have been instrumental in articulating the potential of digital games as powerful tools for engaging students and promoting effective learning experiences. Gee's work emphasizes the concept of "good learning principles" embedded in successful video games, highlighting the alignment of game-based learning with essential educational principles. Prensky coined the term "digital natives" to describe the generation of students who have grown up in a digital environment, asserting that traditional educational methods may not fully resonate with their learning preferences. The literature on digital games in education underscores their ability to enhance motivation, problem-solving skills, and collaborative learning (Gee, 2003; Steinkuehler, 2006). Additionally, as digital games continue to evolve, encompassing diverse genres and platforms, educators and researchers alike are exploring their potential to address educational objectives, making them an increasingly integral component of modern educational landscapes (Clark, Tanner-Smith, & Killingsworth, 2016). The growing body of literature surrounding digital games in education underscores their multifaceted impact on teaching and learning, providing a rich foundation for further exploration and innovation in educational practices. (Baran-Łucarz, M., & Klimas, A. 2020).

2.2. Definitions and types of digital games

Digital games encompass a diverse range of interactive electronic experiences that utilize technology for entertainment, education, or a combination of both. The term "digital games" includes various forms, from traditional video games played on consoles and personal computers to mobile games accessible on smartphones and tablets (Reinhardt, J. 2017). These games often incorporate multimedia elements, such as graphics, sound, and animation, to provide an immersive and engaging user experience. Broadly categorized, digital games can be classified into genres such as action, adventure, simulation, strategy, and role-playing games, each catering to different preferences and objectives (Juul, 2003). Serious games represent a subset of digital games explicitly designed for educational or training purposes, aiming to impart specific skills or knowledge while maintaining an entertaining context (Michael & Chen, 2006). Additionally, educational games specifically target learning outcomes, integrating educational content into game mechanics to facilitate knowledge acquisition (Kebritchi, Hirumi, & Bai, 2010). The diverse landscape of digital games reflects their adaptability to various contexts and purposes, contributing to their widespread popularity and integration into both leisure and educational spheres.

Viewed from this angle, Digital games, hence, encompass a diverse range of interactive experiences that leverage technology for entertainment, education, and skill development. Broadly defined as electronic games played on various platforms, including computers, consoles, mobile devices, and online platforms, digital games are characterized by graphical interfaces, programmed rules, and player interactions, distinguishing them from traditional non-digital games (Juul, 2003), within the realm of digital games, several categories and genres exist, catering to different preferences and purposes. Serious games, for instance, are designed with educational objectives in mind, aiming to impart specific skills or knowledge (Michael & Chen, 2006). Simulation games simulate real-world scenarios, allowing players to engage in lifelike experiences while role-playing games involve immersive storytelling and character development (Deterding et al., 2011; Salen & Zimmerman, 2004). Other notable categories include action games, strategy games, puzzle games, and multiplayer online games, each offering distinct gameplay mechanics and experiences (Crawford, 1984; Rollings & Adams, 2003). In a nutshell, the evolving landscape of digital games continuously introduces new genres and hybrids, reflecting the dynamic nature of this medium as it continues to captivate audiences across the globe.

2.3 Previous studies on the effectiveness of digital games in language learning

A substantial body of research has investigated the effectiveness of integrating digital games into language learning contexts, revealing promising insights into the potential benefits of this innovative pedagogical approach. Studies have consistently demonstrated that digital games offer a dynamic and engaging environment conducive to language acquisition, fostering motivation and active participation among learners (El Moudden, M. B. 2021). Interactive features such as immediate feedback, adaptive challenges, and immersive scenarios contribute to language skill development by providing contextualized and authentic language use experiences (Godwin-Jones, R. 2014). Furthermore, digital games have been shown to enhance vocabulary acquisition, grammar comprehension, and pronunciation skills through repeated exposure in a playful and non-threatening setting (Gee, 2003). Besides, the incorporation of narrative elements and social interactions in multiplayer games has also been recognized for its positive impact on communicative competence and intercultural awareness (Thorne, S. L., Black, R. W., & Sykes, J. M. 2009). Therefore, while acknowledging the need for careful game design and alignment with educational goals, previous research collectively underscores the potential of digital games as effective tools for language learning, catering to diverse learning styles and preferences.

2.4 Digital Games and Language Learning: Relevance to Language Acquisition Theories

Digital games have emerged as a dynamic and engaging tool for language learning, revolutionizing traditional language education methods. These interactive platforms provide learners with a unique and immersive environment where they can practice and enhance their language skills in a playful context. The gamification of language learning not only captivates learners' attention but also fosters motivation and persistence, key elements for effective language acquisition. Digital games often incorporate real-life scenarios, cultural contexts, and authentic language usage, allowing learners to apply their language skills in practical situations (Whitton, N. 2014). Additionally, the immediate feedback provided by games enables learners to identify and correct errors in real-time, facilitating a more efficient learning process. The interactive nature of digital games promotes collaboration and communication, encouraging learners to interact with virtual characters or other players in the target language (Thorne, S. L., Black, R. W., & Sykes, J. M. 2009). Moreover, the repetitive nature of certain game mechanics contributes to the reinforcement of vocabulary and grammar structures. As technology continues to advance, the potential for digital games in language learning appears boundless, offering a personalized and adaptive approach that caters to diverse learning styles and preferences (Blake, R. J. 2013).

From this perspective, it can be said that digital games and language learning are highly relevant to various language acquisition theories, providing an effective platform for implementing and reinforcing key principles. One such theory is Krashen's Input Hypothesis, which posits that language acquisition occurs when learners are exposed to language input that is slightly beyond their current proficiency level. Digital games, through their adaptive nature, can provide a scaffolded progression of language challenges, offering content that aligns with learners' evolving skills. The Communicative Language Teaching (CLT) theory emphasizes the importance of meaningful communication in language learning. Digital games often simulate authentic communication scenarios, encouraging players to use language in context for practical purposes. The Constructivist theory, which underscores the role of active engagement and social interaction in learning, is reflected in the multiplayer and collaborative features of digital language games, enabling learners to interact with peers or virtual characters. Furthermore, the Behaviorist theory's principles of reinforcement and repetition are embedded in game mechanics, where players repeat language tasks and receive immediate feedback (Filsecker, M., & Bündgens-Kosten, J. 2012). Overall, the incorporation of digital games into language learning aligns with and leverages the principles of these language acquisition theories, making the process more engaging, interactive, and effective for learners.

2.5 Definitions and classifications of soft skills

Soft skills, often referred to as interpersonal or personal skills, encompass a range of non-technical attributes that contribute to an individual's effectiveness in various aspects of life, including the workplace and personal relationships (Cimatti, B. 2016). In fact, there is no universally agreed-upon definition of soft skills, but they generally involve communication, teamwork, problem-solving, adaptability, creativity, and emotional intelligence (Cimatti, B. 2016). The World Economic Forum's "Future of Jobs" report (2016) categorizes soft skills into three overarching clusters: people skills (communication, interpersonal skills), problem-solving skills (critical thinking, creativity), and personal skills (emotional intelligence, adaptability) (Cimatti, B. 2016). Hence, the significance of soft skills has been highlighted in academic and professional literature, emphasizing their role in career success, leadership, and overall well-being. As the demand for these skills continues to rise in today's dynamic and interconnected world, a clear understanding of their definitions and classifications becomes crucial for educators, employers, and policymakers alike.

2.6 Conclusion

Briefly speaking, this investigation into the impact of integrating digital games into EFL classrooms on the development of soft skills represents a significant contribution to the discourse on innovative pedagogical approaches. The correlation between the use of digital games and the enhancement of communication and critical thinking skills among EFL students underscores the potential of these tools in fostering holistic student development. The implications of this research extend beyond the confines of Omar Elkhayam High School in Taza, Morocco, reaching educators, curriculum designers, and policymakers engaged in shaping effective educational strategies within EFL contexts. As the educational landscape continues to evolve, understanding the role of digital games in nurturing essential skills becomes increasingly pertinent for preparing students to thrive in a dynamic and interconnected world. Hence, the multifaceted nature of soft skills underscores their importance in creating well-rounded individuals capable of not only meeting the demands of the contemporary workforce but also contributing meaningfully to society. As the world moves forward, understanding and incorporating effective strategies for the cultivation of soft skills in educational curricula will be pivotal in preparing individuals for the challenges and opportunities that lie ahead.

3. Methodology

3.1 Research objectives

The focus of the current study is restricted to achieve the following objectives:

1- To explore the impact of integrating diverse online games into EFL classrooms on the development of soft skills among Moroccan EFL students.
2- To assess the correlation between the incorporation of various online games and the enhancement of soft skills, namely communication and critical thinking,
3- To investigate the implications of utilizing online games as educational tools for fostering soft skills development in EFL contexts.

3.2 Research questions

To approach the aforementioned problem properly and achieve the objectives, the current study aims to address the following questions:

1- What is the perceived impact of engaging in diverse online games and the development of soft skills among Moroccan EFL students?
2- Is there a significant correlation between engaging in various online games and the enhancement of soft skills, including communication and critical thinking?

3.3 Research Hypothesis

It is hypothesized that there is a significant relationship between engaging in diverse online games and the development of soft skills among Moroccan EFL students.

3.4 Research Approach

This study adopts a quasi-experimental longitudinal study that aimed to investigate the relationship between participation in the school online gaming club and the development of soft skills, specifically English communication skills and critical thinking skills, over five months. The hypothesis posited that engaging in online gaming activities would lead to improvements in both English communication skills and critical thinking skills among participants. The research design involved collecting data from two groups: an experimental group that involved 10 participants who joined the school online gaming club in October 2023 and a control group who did not receive the treatment. Pre-tests were conducted at the beginning of the study to assess the 20 participants' baseline levels of English communication skills and critical thinking skills using a speaking listening test and a task involving riddles and puzzles based on the Cornell critical thinking model, respectively.

The Cornell Critical Thinking Model is a framework designed to help individuals develop their critical thinking skills. It consists of four levels of critical thinking competence:

a- Novice Thinker: At this level, individuals are just beginning to develop their critical thinking skills. They may struggle to identify relevant information, make logical connections, or evaluate the credibility of sources. Novice thinkers often rely heavily on intuition, personal experience, or external authority figures to guide their thinking.
b- Developing Thinker: At this level, individuals are making progress in their critical thinking abilities. They begin to recognize the importance of evidence and reasoning in making decisions or forming opinions. Developing thinkers may still have difficulty evaluating complex arguments or identifying underlying assumptions, but they are starting to engage more actively with information and ideas.
c- Proficient Thinker: Proficient thinkers have advanced critical thinking skills and can analyze information effectively, evaluate arguments critically, and make informed decisions based on evidence and reasoning. They can identify biases, assumptions, and logical fallacies in both their thinking and the arguments of others. Proficient thinkers are also skilled at communicating their ideas clearly and persuasively.
d- Expert Thinker: Expert thinkers have reached the highest level of critical thinking competence. They possess a deep understanding of complex issues, can analyze information from multiple perspectives, and are adept at synthesizing diverse sources of evidence. Expert thinkers are also skilled at anticipating potential consequences and making strategic decisions based on their analysis.

After five months of participation in the school online gaming club with the rate of three sessions a week, post-tests were administered to measure any changes in these skills. Moreover, to measure if there is a statistical difference between the results of the pre and post-test, Paired samples t-tests were also conducted.

4. Data presentation and discussion

4.1 pre-tests

4.1.1 experimental group

These tables represent the results of pre-tests administered to a group of individuals with two different skills: English Communication Skills and Critical Thinking Skills.

Table 1 Pre-test: English Communication Skill 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A1	5	50,0	50,0	50,0
	A2	3	30,0	30,0	80,0
	B1	2	20,0	20,0	100,0
	Total	10	100,0	100,0	

This table indicates the distribution of respondents across different proficiency levels in English Communication Skills. The majority of respondents fall into the A1 category (50%), followed by A2 (30%), and finally B1 (20%). No other proficiency levels, such as B1 and C1, were reported in this data set.

Table 2 Pre-test: Critical Thinking Skill 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	novice	2	20,0	20,0	20,0
	developing	7	70,0	70,0	90,0
	proficient	1	10,0	10,0	100,0
	Total	10	100,0	100,0	

In this table, respondents are classified into different levels of proficiency in Critical Thinking Skills. The largest proportion of respondents falls into the "Developing" category (70.0%), followed by "Novice" (20.0%), and lastly "Proficient" (10.0%).

Thus, these tables provide insights into the distribution of proficiency levels among the respondents in English Communication Skills and Critical Thinking Skills.

4.1.2 Control group

Table 3 Pre-test: English Communication Skill 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A1	6	50,0	50,0	50,0
	A2	3	30,0	30,0	80,0
	B1	1	20,0	20,0	100,0
	Total	10	100,0	100,0	

In this table, there were 10 participants in the Control Group's pre-test for English Communication Skills. Like the previous results, participants were categorized into three proficiency levels: A1, A2, and B1.

50% of the participants (6 out of 10) were classified as A1.
30% of the participants (3 out of 10) were classified as A2.
20% of the participants (1 out of 10) were classified as B1.

Table 4 Pre-test: Critical Thinking Skill 1

	Frequency	Percent	Valid Percent		Cumulative Percent
Valid	novice	7	20,0	20,0	20,0
	developing	2	70,0	70,0	90,0
	proficient	1	10,0	10,0	100,0
	Total	10	100,0	100,0	

For the pre-test on Critical Thinking Skills, again, there were 10 participants in the Control Group. They were also categorized into three levels: Novice, Developing, and Proficient:

70% of the participants (7 out of 10) were classified as Novice. 20% of the participants (2 out of 10) were classified as Developing. 10% of the participants (1 out of 10) were classified as Proficient.

In a word, these tables demonstrate the distribution of participants across different proficiency levels for both English Communication Skills and Critical Thinking Skills within the Control Group. These results serve as a baseline for comparison with post-intervention or post-training assessments to evaluate any changes or improvements in these skills over time.

4.2 post-tests

4.2.1 experimental group

This table shows that 10% of the participants achieved an A1 level proficiency in English communication skills post-intervention. 40% of the participants achieved an A2 level proficiency. 50% of the participants achieved a B1 level proficiency. This suggests that the majority of the participants in the experimental group improved their English communication skills in post-intervention, with the highest proportion reaching a B1 level. It also indicates the effectiveness of the intervention or treatment that was administered in enhancing English communication skills among the participants.

Table 5 Post-test: English Communication Skills 2

	Frequency	Percent	Valid Percent		Cumulative Percent
Valid	A1	1	10,0	10,0	10,0
	A2	4	40,0	40,0	50,0
	B1	5	50,0	50,0	100,0
	Total	10	100,0	100,0	

This table presents data on the post-test results for Critical Thinking Skills. As it is indicated, 10% of the participants are classified as Novice in critical thinking skills post-intervention. 20% are classified as Developing. The majority, 60% of the participants, are classified as Proficient in critical thinking skills. 10% of the participants are classified as Advanced. Hence, this suggests that the majority of participants improved their critical thinking skills in post-intervention, with the largest proportion reaching a Proficient level. However, only a small percentage achieved an Advanced level, indicating that there's still room for improvement in enhancing critical thinking skills among the participants.

4.2.2 Control Group

Table 6 Post-test: English communication Skills 2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A1	6	10,0	10,0	10,0
	A2	3	40,0	40,0	50,0
	B1	1	50,0	50,0	100,0
	Total	10	100,0	100,0	

This table presents data on the post-test results for English communication skills in a control group. As is shown,10% of the participants in the control group achieved an A1 level proficiency in English communication skills post-intervention, 40% of the participants achieved an A2 level proficiency, and 50% of the participants achieved a B1 level proficiency. Compared with the experimental group's data, it seems that the control group didn't undergo the same intervention or treatment to improve their English communication skills. However, the distribution of proficiency levels is somewhat similar, yet with differences in the percentages. This suggests that the intervention really influenced the participants' English communication skills in both the experimental and control groups.

Table 7 Post-test: Critical Thinking Skill 1

	Frequency	Percent	Valid Percent		Cumulative Percent
Valid	novice	7	20,0	20,0	20,0
	developing	2	70,0	70,0	90,0
	proficient	1	10,0	10,0	100,0
	Total	10	100,0	100,0	

This table presents data on the post-test results for Critical Thinking Skill. As it is displayed, 20% of the participants in the study are classified as Novice in critical thinking skills post-intervention, the majority, 70% of the participants, are classified as Developing in critical thinking skills, and 10% of the participants are classified as Proficient in critical thinking skills.

Hence, the table suggests that the majority of participants didn't show improvement in critical thinking skills post-intervention, with most falling into the "novice" category. However, there are still some participants classified as "developing", indicating that there is room for improvement. Only a small percentage of participants reached the Proficient level, suggesting that further interventions or support may be necessary to enhance critical thinking skills across the board.

4.3 paired samples t-tests

The statistical tests used to analyze the data were paired samples t-tests. For English communication skills, the paired samples t-test revealed a statistically significant difference between pre-test and post-test scores ($t = -4.583$, $df = 9$, $p = 0.001$), indicating a significant improvement in English communication skills after participating in the online gaming club.

Table 8 Paired Samples Test

Paired Differences								df	Sig. (2-tailed)
Mean				St d. Deviation	St d. Error Mean	95% Confidence Interval of the Difference			
						Lower	Upper		
ir 1	Pa	Pre-test: English Communication Skill 1 - Post-test: English communication Skills 2	-,700	,483	,153	-1,046	-,354	4,583	,001

This table presents the results of a paired samples test, which is a statistical analysis used to compare the means of two related groups. As indicated, the paired samples test suggests that there is a statistically significant difference between the pre-test and post-test scores for English communication skills ($p < 0.05$). The negative mean difference indicates that, on average, participants scored lower on the post-test compared to the pre-test.

Similarly, for critical thinking skills, the paired samples t-test showed a significant difference between pre-test and post-test scores ($t = -2.753$, $df = 9$, $p = 0.022$), suggesting an improvement in critical thinking skills following participation in online gaming activities.

Table 9 Paired Samples Test

Paired Differences						T	df	Sig.(2-tailed)
Mean		Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Pre-test: Critical Thinking Skill 1 - Post Test: Critical Thinking Skill 2	,800	,919	,291	-1,457	-,143	-2,753	9	,022

This table presents the results of a paired samples test, comparing the scores between the pre-test and post-test for Critical Thinking Skills. As it is shown, the paired samples test suggests that there is a statistically significant difference between the pre-test and post-test scores for Critical Thinking Skills ($p < 0.05$). The positive mean difference indicates that, on average, participants scored higher on the post-test compared to the pre-test. The confidence interval for the difference includes both negative and positive values, suggesting some uncertainty about the true effect size, but the overall trend suggests improvement in critical thinking skills from the pre-test to the post-test.

5. Findings

Based on the results provided in the tables, the main findings of the study are:

a- English Communication Skills:

In the experimental group, there was a notable improvement in English communication skills from pre-test to post-test. The majority of participants achieved higher proficiency levels post-intervention, with 50% reaching a B1 level. In contrast, the control group didn't show clear improvements in proficiency levels as the experimental group.

b- Critical Thinking Skills:

The experimental group showed improvement in critical thinking skills from the first to the second assessment. The majority of participants were classified as Developing in the post-test, indicating progress. Yet, the control group didn't exhibit improvement in critical thinking skills, with most participants classified as "Novice" in the post-test.

c- Paired Samples Test:

For both English communication skills and critical thinking skills, the paired sample tests indicated statistically significant differences between pre-test and post-test scores.

Above all, the main findings of this study suggest that the intervention employed for both English communication and critical thinking skills appears to have had a positive impact, as indicated by the improvement seen in the experimental group. The experimental group generally showed more consistent improvement, suggesting that the intervention may have contributed to the enhanced outcomes. These findings suggest that engagement in online gaming may have a positive impact on the development of soft skills such as English communication skills and critical thinking skills. The results support the hypothesis that participation in online gaming activities can lead to improvements in these skills over time. This study contributes to our understanding of the potential benefits of online gaming in fostering the development of important cognitive and communication abilities.

6. Conclusion

In a nutshell, the main focus of this study is to investigate the impact of integrating various digital games in EFL classrooms on the development of soft skills, specifically communication and critical thinking skills. Through the examination of pre-test and post-test data from both experimental and control groups, as well as paired sample tests, several key findings emerged. Firstly, concerning English communication skills, participants in the experimental group exhibited significant improvement in post-intervention, with a notable proportion achieving higher proficiency levels. The control group didn't demonstrate enhancement in proficiency level distribution. Secondly, regarding critical thinking skills, the experimental group displayed improvement from the initial to the subsequent assessment. Participants in the experimental group showed consistent progress, whereas those in the control group didn't demonstrate clear advancements. The paired samples test further supported these findings, indicating statistically significant differences between pre-test and post-test scores for both English communication and critical thinking skills. Notably, while the experimental group generally displayed more consistent improvement, both groups exhibited positive development over the study period. These results suggest a promising correlation between engagement with digital games and

the development of soft skills. However, further research is warranted to delve deeper into the specific mechanisms underlying this relationship and to explore the long-term effects of such interventions. Additionally, investigating potential moderating factors, such as game genre or duration of exposure, could provide valuable insights into optimizing digital game-based interventions for soft skills development. Thus, this study contributes to the growing body of literature highlighting the potential of digital games as effective tools for fostering essential soft skills like communication and critical thinking. Recognizing the importance of these skills in various aspects of life, including education and professional endeavors, underscores the significance of continued exploration and refinement of digital game-based interventions in this domain.

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