LEARNING : Jurnal Inovasi Penelitian Pendidikan dan Pembelajaran
Vol. 6, No. 3, Juni-Agustus 2026
e-ISSN : 2777-0575 | p-ISSN : 2777-0583
Online Journal System : https://jurnalp4i.com/index.php/learning

CONSTRUCTIVE SCREEN TIME IN ROBLOX STUDIO: ADULT PERSPECTIVES AND CHILDREN'S LEARNING

Sean Alistair Setiawan[1], Ni Luh Sekar Astuti[*2]
Cendekia Harapan School, Bali[1,2]
e-mail: sean@cendekiaharapan.sch.id , sekar@cendekiaharapan.sch.id

Diterima: *30/5/2026*; Direvisi: *10/6/2026*; Diterbitkan: *17/6/2026*

ABSTRAK

Waktu layar pada anak umumnya lebih sering dibahas dari sisi risiko, pembatasan, dan durasi penggunaan. Sementara itu, potensi edukatif dari keterlibatan digital yang bersifat konstruktif masih belum banyak mendapat perhatian. Penelitian ini bertujuan untuk mengeksplorasi kemungkinan pemanfaatan Roblox Studio sebagai bentuk bentuk keterlibatan digital yang konstruktif, dengan menelaah dua aspek yang saling berkaitan, yaitu pemahaman orang dewasa tentang perbedaan antara waktu layar pasif dan konstruktif serta pengalaman belajar anak saat memainkan Prank Tower, sebuah permainan yang dikembangkan sebagai artefak digital. Penelitian ini menggunakan pendekatan eksploratif dengan metode campuran yang dipadukan dengan pengembangan artefak digital berbasis proyek. Data diperoleh melalui kuesioner daring yang melibatkan 23 orang tua atau guru dan 31 siswa berusia 9 hingga 15 tahun. Data kuantitatif dianalisis secara deskriptif, sedangkan respons terbuka dianalisis menggunakan pendekatan tematik. Hasil penelitian menunjukkan bahwa siswa memandang permainan sebagai aktivitas yang menyenangkan sekaligus menantang. Mereka juga melaporkan adanya ketekunan setelah mengalami kegagalan, serta penggunaan kesabaran, pengaturan waktu, dan kemampuan pemecahan masalah selama bermain. Di sisi lain, responden dewasa pada umumnya mengakui bahwa waktu layar dapat memberikan manfaat, namun masih terdapat keraguan dalam membedakan keterlibatan yang bersifat konstruktif dengan konsumsi pasif. Temuan ini menegaskan bahwa kualitas waktu layar, desain aktivitas digital, dan pendampingan orang dewasa merupakan faktor penting dalam memahami bagaimana platform seperti Roblox Studio dapat dimanfaatkan untuk mendukung keterlibatan digital yang lebih bermakna bagi Generasi Alpha.

Kata Kunci: *Waktu Layar Konstruktif, Roblox Studio, Mediasi Dewasa, Pembelajaran Berbasis Permainan, Generasi Alpha*

ABSTRACT

Screen time in childhood is often discussed primarily in terms of risk, restriction, and duration, while less attention is given to the educational potential of constructive digital engagement. This study examines whether Roblox Studio can function as a medium for positive screen time by exploring two linked perspectives: adults' understanding of passive versus constructive screen time and children's learning experiences while engaging with Prank Tower, a Roblox Studio game developed as a digital artifact. The study used an exploratory mixed-method design combined with a project-based digital artifact approach. Data were collected through online questionnaires from 23 parents or teachers and 31 student players aged 9 to 15. Quantitative responses were analyzed using descriptive statistics, while open-ended responses were examined through thematic analysis. The findings indicate that students experienced the game as enjoyable and challenging, and their self-reports suggested persistence after failure as well

https://doi.org/10.51878/learning.v6i3.11665

LEARNING : Jurnal Inovasi Penelitian Pendidikan dan Pembelajaran
Vol. 6, No. 3, Juni-Agustus 2026
e-ISSN : 2777-0575 | p-ISSN : 2777-0583
Online Journal System : https://jurnalp4i.com/index.php/learning

as perceived use of patience, timing, and problem-solving during gameplay. Adult respondents generally acknowledged that screen time can be beneficial, but many remained uncertain about how to distinguish constructive engagement from passive consumption. The study contributes to current debates on children's media use by showing that screen time quality, digital task design, and adult guidance are central to understanding how digital platforms such as Roblox Studio may support constructive forms of engagement for Generation Alpha.
Keywords: *Constructive Screen Time, Roblox Studio, Adult Mediation, Game-Based Learning, Generation Alpha*

INTRODUCTION

Digital media forms a routine part of childhood, especially visible among Generation Alpha, a cohort growing up where gaming and interactive platforms are completely embedded in everyday life. Industry data suggest that video games are a regular activity for a large proportion of children aged 5 to 12, reinforcing the need to understand gaming not only as entertainment, but as a complex social, cognitive, and educational environment (Entertainment Software Association, 2025). At the same time, public and academic concerns remain strong regarding the negative impacts of unmonitored digital habits. Research has repeatedly associated excessive screen exposure with developmental, behavioral, and well-being risks, including attention difficulties, emotional strain, and lower-quality routines when use is poorly matched to children's developmental needs (Kar et al., 2025; Ponti, 2023; Qi et al., 2023). Although these concerns are important, screen time debates are often framed too broadly, tending to treat all screen-based activities as functionally equivalent. Watching short-form videos is often grouped together with coding, digital design, simulation, or challenge-based game creation, leading families to evaluate digital activities based mainly on duration (Kar et al., 2025; Moreno et al., 2024; Ponti, 2023).

This critical lack of differentiation can lead families and schools to evaluate digital activities improperly, ignoring that content, purpose, and mode of engagement matter at least as much as total time spent on screens. In this study, that distinction is addressed through the concepts of passive and constructive screen time. Passive screen time refers to digital engagement dominated by consumption, low cognitive demand, and limited decision-making. Constructive screen time, by contrast, involves active exploration, strategy, design, creation, problem-solving, or iterative improvement in digital environments. This distinction is increasingly relevant because the educational consequences of digital use appear to depend substantially on how children engage with the medium. Reviews of game-based learning have shown that well-designed digital games can support cognitive, motivational, social, and affective outcomes, especially when they require active participation and are integrated with meaningful learning goals (Alotaibi, 2024; Qian & Clark, 2016). Likewise, studies of children's play and game engagement suggest that games can support problem-solving and broader 21st-century skills under appropriate conditions (Yılmaz & Griffiths, 2023).

Roblox is highly relevant within this discussion because it is not merely a platform for playing games, but a participatory environment where users can design, script, test, revise, and publish digital experiences. As an ecosystem, Roblox combines gameplay, social interaction, and creative production. Systematic review evidence indicates that Roblox has attracted growing attention in educational contexts because it can support immersive learning, collaboration, creativity, and digital participation, although its educational value depends strongly on pedagogy, structure, and context (Han et al., 2023; Toopmongkol et al., 2025).

https://doi.org/10.51878/learning.v6i3.11665

LEARNING : Jurnal Inovasi Penelitian Pendidikan dan Pembelajaran
Vol. 6, No. 3, Juni-Agustus 2026
e-ISSN : 2777-0575 | p-ISSN : 2777-0583
Online Journal System : https://jurnalp4i.com/index.php/learning

Roblox Studio, the platform's creation environment, extends this potential by providing tools for three-dimensional design, scripting, testing, and iterative development. In educational terms, such environments move children closer to digital authorship rather than digital consumption. However, the educational promise of a platform alone does not guarantee constructive use. Children's learning with digital media is shaped not only by the activity itself, but also by adult interpretation, mediation, and support. Research on parental mediation shows that parents influence children's digital experiences through rules, co-use, discussion, supervision, and modeling (Holmgren et al., 2024; Livingstone et al., 2017; Shin & Li, 2017).

Reviews of home digital literacy suggest that parent mediation can shape not just safety and risk, but learning opportunities, confidence, and the quality of children's engagement with media (Soyoof et al., 2024). This is especially important because restrictive approaches may reduce certain risks, but they may also limit opportunities for constructive, creative, or socially meaningful digital participation (Köhler-Dauner et al., 2025; Livingstone et al., 2017). This tension creates a practical and conceptual problem; children may engage in digital activities that support persistence, experimentation, and problem-solving, while parents remain uncertain whether such activities are truly beneficial. In other words, the value of screen time may be experienced by the child but not fully recognized by the adult. Existing literature has often addressed either the risks of screen time, the effects of educational gaming, or parental mediation in relative isolation. Fewer studies have examined how children's concrete learning experiences in a specific digital artifact align, or fail to align, with adults' perceptions of screen use. The present study addresses that gap by bringing these two perspectives together.

The study is anchored in Piaget's constructivism, emphasizing that children build knowledge through active engagement, and Papert's constructionism, which argues that learning becomes especially powerful when children create meaningful public artifacts through digital tools. Within this frame, the study examines *Prank Tower*, a Roblox Studio game developed as a digital artifact. While student participants did not create the game, they engaged with a challenge-based environment designed to require timing, persistence, adjustment, and repeated experimentation, where failure serves as feedback. The study asks: How do adults' understanding of passive and constructive screen time and students' experiences with *Prank Tower* show that Roblox Studio may support constructive forms of screen engagement for Generation Alpha? The objective is to explore whether and how a Roblox Studio-based digital artifact may be understood as an instance of constructive screen time. Theoretically, it extends screen time debates by shifting attention from duration to the quality of digital engagement. Practically, it offers evidence helping parents and educators interpret digital play more accurately, especially when involving active challenge, strategic thinking, and guided reflection rather than passive consumption.

METHODS

This study employed an exploratory mixed-method design combined with a project-based digital artifact approach to investigate the educational potential of constructive screen time. The research was conducted at Cendekia Harapan School in Bali, focusing on the interactive ecosystem of *Roblox Studio* to map the digital engagement of Generation Alpha. Rather than measuring statistical causality, the exploratory design aimed to capture diverse perspectives on digital play by bridging adult interpretations with children's lived experiences in a specific game environment (Han et al., 2023). Peneliti positioned themselves as the primary human instrument to gather, filter, and interpret data patterns contextually without manipulating

https://doi.org/10.51878/learning.v6i3.11665

LEARNING : Jurnal Inovasi Penelitian Pendidikan dan Pembelajaran
Vol. 6, No. 3, Juni-Agustus 2026
e-ISSN : 2777-0575 | p-ISSN : 2777-0583
Online Journal System : https://jurnalp4i.com/index.php/learning

any natural classroom variables. This framework provided a structured baseline to examine how active digital exploration coexists with perceived cognitive demands, shifting the evaluation of digital media from mere duration to qualitative engagement.

The field implementation relied on *Prank Tower*, a project-based game artifact specifically designed as a challenge-based digital environment to encourage observation, timing, and problem-solving. Data collection was carried out through two separate online questionnaires administered via *Google Forms* from September 29 to October 22, 2025. The participant pool comprised two distinct groups selected through accessible recruitment: 23 adult respondents consisting of parents and teachers, and 31 student players aged 9 to 15 years old. This dual-perspective sampling allowed researchers to examine adult mediation strategies alongside the students' direct self-reports on challenge management (Soyoof et al., 2024). The qualitative data gathering focused on tracking behavioral indicators such as persistence after repeated failure, while the quantitative items captured descriptive frequencies regarding game evaluation and screen time quality.

Quantitative response data from the structured questionnaire items were analyzed using descriptive statistics to calculate overall percentages, frequencies, and mean scores. Concurrently, qualitative insights from the open-ended feedback sections were analyzed using a systematic thematic analysis approach (Alotaibi, 2024). The analytical procedure followed an interactive flow model consisting of consecutive reading, coding, and grouping into overarching themes such as *adult uncertainty* and *constructive engagement*. To protect student identities, all data records were completely anonymized and reported in aggregate form. Academic credibility was ensured through data triangulation by cross-checking the descriptive frequency trends against qualitative theme patterns and self-reported skill use. This holistic procedure successfully mapped the conceptual gaps between parental concern and structured digital play within the contemporary educational framework.

RESULTS AND DISCUSSION

Results

1. Adult Results

All adult respondents, representing 100%, stated that gadget or platform use can be used not only for entertainment but also for learning and skill building. This indicates unanimous recognition that screen use is not inherently negative. Media exposure, however, appeared uneven. Nearly half of adult respondents, 47.8%, reported that the media messages they encounter about screen time are mostly negative. A further 34.8% described media information as balanced, while only 17.4% reported mostly positive messaging. When asked about distinguishing passive screen time from constructive screen time, 52.2% of adult respondents reported strong confidence in recognizing the difference. However, 39.1% reported only partial confidence and a need for clearer guidance, while 8.7% stated that they were not confident in distinguishing the two.

Adults were also asked whether enough clear and reliable guidance exists to help parents manage children's screen time in a healthy and balanced way. Only 34.8% answered yes. In contrast, 43.5% were unsure, and 21.7% answered no. Regarding the general value of gaming for children, 60.9% of adult respondents stated that gaming can be beneficial if properly guided. Another 34.8% described their position as neutral, while only 4.3% viewed gaming as mostly harmful. In relation to direct involvement in children's digital activities, 60.9% of adults reported that they often discuss or participate in such activities with children, 30.4% reported

https://doi.org/10.51878/learning.v6i3.11665

LEARNING : Jurnal Inovasi Penelitian Pendidikan dan Pembelajaran
Vol. 6, No. 3, Juni-Agustus 2026
e-ISSN : 2777-0575 | p-ISSN : 2777-0583
Online Journal System : https://jurnalp4i.com/index.php/learning

doing so sometimes, and 8.7% reported rarely doing so. To provide a concise overview of the adult responses, Table 1 summarizes the main patterns related to perceptions of screen time, confidence in distinguishing passive and constructive use, views on gaming, and levels of involvement in children's digital activities.

Table 1. Summary of Adult Responses

Variable	Result
Recognize screens can support learning	100.0%
Mostly negative media messages about screen time	47.8%
Strong confidence distinguishing passive vs constructive screen time	52.2%
Need clearer guidance about passive vs constructive screen time	39.1%
Not confident distinguishing passive vs constructive screen time	8.7%
Believe clear guidance exists	34.8%
Unsure whether clear guidance exists	43.5%
Believe guidance is insufficient	21.7%
View gaming as beneficial if guided	60.9%
Often discuss or participate in children's digital activities	60.9%

2. Student Results

Student responses suggest that Prank Tower was experienced as enjoyable by most participants. When asked how fun the game was, 54.8% selected "fun" and 22.6% selected "very fun," producing a combined 77.4% positive enjoyment response. The remaining 22.6% selected "a little fun." No student selected "not fun." When students were asked which skill they used most while playing, 25.8% selected patience, 19.4% selected timing, and 12.9% selected problem-solving. The remaining 41.9% selected "just for fun."

When responding to failure in a level, 61.3% reported trying again a few times before succeeding, 35.5% reported continuing until they passed, and 3.2% reported giving up. Students also rated their overall experience on a five-point scale. No student selected 1 or 2. A total of 19.4% selected 3, 48.4% selected 4, and 32.3% selected 5, resulting in a mean score of 4.13. In response to whether Prank Tower helped them practice skills such as problem-solving or patience, 35.5% answered yes, 58.1% answered maybe, and 6.5% answered no. To summarize the student response patterns more clearly, Table 2 presents the main results related to enjoyment, perceived skill use, responses to failure, overall evaluation of the game, and perceived learning-related benefits after playing Prank Tower.

Table 2. Summary of Student Responses After Playing Prank Tower

Variable	Result
Fun or very fun	77.4%
Reported patience as the main skill used	25.8%
Reported timing as the main skill used	19.4%
Reported problem-solving as the main skill used	12.9%
Reported "just for fun"	41.9%
Retried several times after failure	61.3%
Persisted until success	35.5%
Gave up after failure	3.2%
Rated the game 4 or 5 out of 5	80.7%
Mean overall rating	4.13
Thought the game helped problem-solving or patience	35.5%
Thought the game might help problem-solving or patience	58.1%

https://doi.org/10.51878/learning.v6i3.11665

LEARNING : Jurnal Inovasi Penelitian Pendidikan dan Pembelajaran
Vol. 6, No. 3, Juni-Agustus 2026
e-ISSN : 2777-0575 | p-ISSN : 2777-0583
Online Journal System : https://jurnalp4i.com/index.php/learning

3. Integrated Summary of Results

Across both participant groups, the findings can be summarized as follows. Adult respondents were conceptually open to the idea that screen use can be educational, but many reported uncertainty about how to identify constructive digital engagement in practice. Students, meanwhile, reported high enjoyment, frequent persistence after failure, and some perceived benefit in areas related to patience and problem-solving. To integrate these quantitative and qualitative patterns into a single interpretive framework, Figure 1 presents the thematic relationship between adult uncertainty, student gameplay experience, and the perceived indicators of constructive engagement identified in the study.

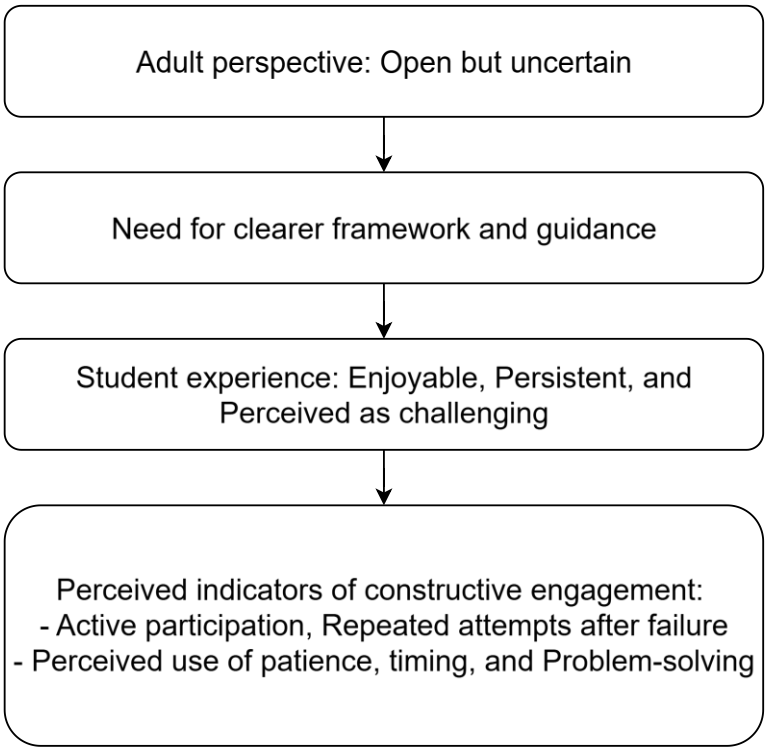

Figure 1. Integrated Thematic Model of Constructive Screen Time in Prank Tower

4. Qualitative Themes from Open-Ended Responses

Open-ended responses from adult participants suggested a recurring theme of conceptual openness combined with practical uncertainty. Many respondents acknowledged that digital activities could support learning, yet they also indicated difficulty in distinguishing constructive engagement from passive consumption in everyday settings. Student open-ended responses likewise suggested that gameplay was often experienced as both enjoyable and challenging, with repeated attempts after failure commonly described as part of the experience. These qualitative patterns supported the quantitative findings by indicating that participants tended to interpret Prank Tower as more than passive entertainment, while still expressing uncertainty about how such engagement should be evaluated in educational terms.

Discussion

The purpose of this study was to examine whether Roblox Studio can support positive screen time by bringing together two forms of evidence that are often kept separate: adult perceptions of screen use and children's reported learning experiences during gameplay. The findings suggest that Prank Tower functioned not merely as entertainment, but as a digital

https://doi.org/10.51878/learning.v6i3.11665

LEARNING : Jurnal Inovasi Penelitian Pendidikan dan Pembelajaran
Vol. 6, No. 3, Juni-Agustus 2026
e-ISSN : 2777-0575 | p-ISSN : 2777-0583
Online Journal System : https://jurnalp4i.com/index.php/learning

environment that participants perceived as enjoyable and challenging. Student self-reports indicated frequent persistence after failure and perceived use of patience, timing, and problem-solving during gameplay. At the same time, the adult data indicate that conceptual openness to constructive screen time does not necessarily translate into confidence about how to recognize or guide it.

1. Constructive Screen Time as a Quality-Based Interpretation

A central implication of this study is that screen time should not be evaluated only by duration. The findings support a quality-based interpretation of digital use. Based on student self-reports, Prank Tower was experienced as an activity that involved repeated attempts, attention, and challenge rather than passive consumption alone. This interpretation is consistent with broader research arguing that the developmental implications of screen use depend on the nature of the activity, the content involved, and the surrounding context of use (Kar et al., 2025; Moreno et al., 2024; Ponti, 2023).

The importance of this distinction is amplified by current public discourse, which often frames gaming largely through risk. The adult respondent data reflect this pattern. Although all adults in the study recognized that screens can have learning value, nearly half reported mostly negative media messages about screen time. This suggests that public narratives may still shape parental judgments more strongly than differentiated educational frameworks. In practical terms, this means that constructive digital activities may be under-recognized because parents are often exposed to generalized warnings rather than nuanced guidance.

2. Student Experience and Perceived Learning-Related Engagement

The student findings are important because they suggest that constructive engagement may be present even when children describe an activity as “fun.” Some adults may interpret fun and learning as opposites, yet the present findings indicate that enjoyment may coexist with perceived challenge. Most students found Prank Tower fun or very fun, and a substantial proportion rated it highly overall. This is relevant because educational research has shown that meaningful engagement, sustained effort, and willingness to continue can be strengthened when learners find activities enjoyable and intrinsically motivating (Alotaibi, 2024; Qian & Clark, 2016).

The finding that 41.9% of students selected “just for fun” as the main descriptor of their skill use should therefore not be read as evidence against learning. Rather, it suggests that students may experience learning indirectly through play. This is developmentally plausible. Children do not always identify strategic effort, self-regulation, or iterative learning in explicit academic language, especially when those processes occur within an enjoyable activity. In this sense, the data are consistent with a view of play as a natural medium of learning rather than a distraction from it.

3. Persistence and Repeated Attempts During Gameplay

One of the strongest findings in the study concerns persistence. Almost all students reported continuing after failure, with only 3.2% indicating that they gave up. This pattern is relevant because self-reported willingness to continue after failure may be interpreted as an indicator of constructive engagement within the gameplay experience. In challenge-based digital environments, failure may function not only as a stopping point but also as a prompt for further effort. While the present study did not directly observe students’ strategies, the reported pattern of retrying suggests that many participants experienced the game as requiring repeated effort and adjustment.

https://doi.org/10.51878/learning.v6i3.11665

LEARNING : Jurnal Inovasi Penelitian Pendidikan dan Pembelajaran
Vol. 6, No. 3, Juni-Agustus 2026
e-ISSN : 2777-0575 | p-ISSN : 2777-0583
Online Journal System : https://jurnalp4i.com/index.php/learning

This interpretation can be discussed in relation to constructivist and constructionist perspectives. From a Piagetian perspective, repeated attempts may reflect the learner's effort to adapt through interaction and adjustment. From a Papertian perspective, the pattern is compatible with iterative engagement, even though the students in this study were not designing or coding the game themselves. However, these interpretations should remain modest because the evidence derives from self-reported gameplay experiences rather than from direct observation or behavioral tracking. This matters educationally because persistence is not merely motivational. It is also cognitive. It involves attention to outcome, willingness to continue, and adaptation of behavior. These are qualities relevant not only to digital play, but to broader problem-solving and academic resilience.

4. Perceived Timing, Patience, and Decision-Making During Play

The student findings also suggest that Prank Tower involved more than simple motor activity. Timing and patience emerged as prominent reported skills. These responses may be interpreted as indications that students perceived the gameplay as requiring attention, restraint, and decision-making during play. In this sense, the game appears to have been experienced as more than passive entertainment. Timing in a game such as Prank Tower may require players to observe obstacle patterns and choose when to act, while patience may involve delaying impulsive responses after repeated failure. However, because the present study did not include observational or performance-based measures, these interpretations should be understood as perception-based rather than as direct evidence of strategic thinking or critical thinking. Taken together, these responses suggest that constructive screen time may involve age-appropriate forms of attention, decision-making, and self-regulation, although the present evidence remains perception-based rather than performance-based.

5. Comfort with Digital Interaction in the Game Environment

The high overall rating of the game suggests that many students found the gameplay experience accessible and engaging. This may indicate a degree of comfort with participating in the digital environment presented by the game. However, the present data do not allow firm conclusions about digital fluency, as no direct observational or performance-based measures were used.

For this reason, the present study is better understood as offering evidence of perceived constructive engagement during gameplay than as demonstrating broader digital competence. The educational relevance of Roblox Studio in this study lies primarily in the challenge-based experience provided by the digital artifact rather than in directly measured gains in system navigation or digital fluency. Research on collaborative game design and computational environments suggests that game creation and structured digital participation can support technical, creative, and collaborative forms of digital competence (Laakso et al., 2021; Wu et al., 2025). Although the children in this study were players rather than designers, the game environment still served as a space for structured digital interaction, even though the present study did not directly measure digital confidence or broader digital competence.

6. Adult Mediation and the Challenge of Recognition

A major contribution of the study lies in showing that constructive screen time is not defined only by the child's activity. It is also shaped by adult recognition and guidance. The adult findings show a clear tension. Most adult respondents did not reject gaming outright. In fact, 60.9% believed that gaming can be beneficial if properly guided, and a similar proportion reported often participating in children's digital activities. Yet many remained uncertain about

https://doi.org/10.51878/learning.v6i3.11665

LEARNING : Jurnal Inovasi Penelitian Pendidikan dan Pembelajaran
Vol. 6, No. 3, Juni-Agustus 2026
e-ISSN : 2777-0575 | p-ISSN : 2777-0583
Online Journal System : https://jurnalp4i.com/index.php/learning

how to distinguish constructive from passive screen use, and only about one-third believed that sufficiently clear guidance exists.

This pattern is consistent with research on parental mediation, which shows that parents often operate under mixed conditions of concern, uncertainty, and uneven knowledge about digital media (Livingstone et al., 2017; Shin & Li, 2017; Soyoof et al., 2024). Parents are not simply permissive or restrictive. Many are open to educational use, but they lack usable frameworks for judging quality (Chacón et al., 2022; Lundtofte, 2021; Morawska et al., 2023; Ochoa & Reich, 2020; Oró, 2021). This is significant because the benefits of constructive digital engagement are more likely to be sustained when adults can identify and support them. Without such recognition, constructive activity may be restricted alongside passive activity simply because both occur on screens (Mallawaarachchi et al., 2024; Masoumi & Bourbour, 2024; Vedechkina & Borgonovi, 2021).

This also helps explain why communication matters. When parents participate in or discuss digital activity with children, they are better positioned to interpret what the child is actually doing. Co-engagement can make invisible learning processes more visible. Rather than asking only, "How long was the child on the device?" adults can ask, "What was the child trying to do? What kind of decisions did the activity require? What did the child do after failure? Was the activity exploratory, strategic, or creative?" These are qualitatively different questions, and they shift the focus from time to learning conditions.

7. Theoretical Relevance of the Findings

The study is theoretically grounded in Piaget and Papert, and the findings suggest that both perspectives remain useful for interpreting contemporary digital experiences. Piaget's constructivism is relevant insofar as students reported repeated attempts after failure and perceived the gameplay as involving challenge, patience, and timing. These responses are compatible with the idea that learning can emerge through active engagement with an environment. Papert's constructionism is relevant in a more limited sense. Although the students in this study were not creating the game directly, they engaged with a meaningful digital artifact designed around challenge, iteration, and problem-solving. The present findings therefore support an interpretation of constructive engagement through gameplay more directly than they support claims about learning through game design or digital creation.

8. Practical Considerations

The findings of this study suggest several practical considerations for parents, schools, and educators. For parents, the results indicate that decisions about children's screen use may benefit from greater attention to the nature of the activity rather than screen exposure alone. Clearer practical frameworks may help adults distinguish more effectively between passive and constructive forms of digital engagement. For schools, the findings suggest that guided digital game-based activities may be considered as one possible component of digital literacy education. In the context of the present study, the value of the Roblox Studio environment lies in its potential to provide structured, enjoyable, and challenge-based gameplay experiences that may encourage persistence and perceived problem-solving during play. For educators and curriculum designers, the study highlights the importance of guidance and reflection. Open digital environments may offer meaningful learning opportunities, but their educational value is likely to be strengthened when adults provide goals, scaffolds, and opportunities for discussion.

9. Limitations

https://doi.org/10.51878/learning.v6i3.11665

LEARNING : Jurnal Inovasi Penelitian Pendidikan dan Pembelajaran
Vol. 6, No. 3, Juni-Agustus 2026
e-ISSN : 2777-0575 | p-ISSN : 2777-0583
Online Journal System : https://jurnalp4i.com/index.php/learning

Several limitations should be acknowledged. First, the sample size was small, which limits the extent to which the findings can be generalized. Second, the study relied on self-report data rather than direct observation or behavioral logs. This means that the claims concern perceived learning-related behaviors rather than objectively measured skill gains. Third, the study focused on a single digital artifact, which provides depth but limits comparison across different game types or platforms.

A further limitation is that the student participants were players of the artifact rather than creators within Roblox Studio itself. This means the findings support constructive engagement through gameplay more directly than they support claims about learning through game design. The article therefore interprets Roblox Studio as a constructive ecosystem, while recognizing that the present evidence comes primarily from interaction with a designed game artifact.

10. Future Research

Future research could build on this study in several ways. Larger and more diverse samples would strengthen the evidence base. Observational studies or gameplay log analysis could provide more direct evidence of strategy change, timing behavior, and feedback use. Pre- and post-assessments could help determine whether engagement with challenge-based gameplay leads to measurable gains in specific thinking skills. Comparative work across platforms such as Roblox Studio and Minecraft could also clarify which design features most strongly support constructive screen time. In addition, future studies should investigate what happens when children move from gameplay to creation. Because Roblox Studio is also a design environment, research that examines children as builders, scripters, and collaborators would more fully test the constructionist claims that underlie the present study.

CONCLUSION

This study explored how adults' understanding of passive and constructive screen time and students' experiences with Prank Tower may help clarify the educational relevance of Roblox Studio for Generation Alpha. The findings suggest that the meaning of screen time cannot be reduced to duration alone. Students' self-reported gameplay experiences indicate that a Roblox Studio-based challenge environment may be associated with enjoyment, persistence after failure, and perceived use of patience, timing, and problem-solving during play. These patterns suggest that some forms of digital gameplay may be experienced as more constructive than passive.

At the same time, the adult findings indicate that recognition of constructive screen time remains incomplete. Parents and teachers in the study were generally open to the idea that digital activities can support learning, yet many remained uncertain about how to distinguish beneficial engagement from passive consumption. This uncertainty appears important because constructive forms of digital engagement are more likely to be recognized and sustained when adults can interpret, guide, and discuss children's digital activities in informed ways.

Taken together, the findings provide exploratory evidence that a Roblox Studio-based gameplay experience may contribute to a more constructive form of screen engagement when the activity is purposeful, challenging, and supported by adult understanding. The study therefore contributes to current discussions of children's media use by reinforcing the importance of quality, structure, and mediation in evaluating screen time.

https://doi.org/10.51878/learning.v6i3.11665

LEARNING : Jurnal Inovasi Penelitian Pendidikan dan Pembelajaran
Vol. 6, No. 3, Juni-Agustus 2026
e-ISSN : 2777-0575 | p-ISSN : 2777-0583
Online Journal System : https://jurnalp4i.com/index.php/learning

REFERENCES

Alotaibi, M. S. (2024). Game-based learning in early childhood education: A systematic review and meta-analysis. Frontiers in Psychology, 15. https://doi.org/10.3389/fpsyg.2024.1307881

Chacón, J. P., Regueiro, P. D., & Alonso, Á. S. M. (2022). Dilemas y preocupaciones de las familias sobre el uso de recursos educativos digitales en la etapa de la Educación Infantil. Digital Education Review, 41, 93–113. https://doi.org/10.1344/der.2022.41.93-113

Entertainment Software Association. (2025, June 3). Annual ESA Study Reveals Video Games' Universal Appeal Across Generations. The ESA. https://www.theesa.com/annual-esa-study-reveals-video-games-universal-appeal-across-generations/

Han, J., Liu, G., & Gao, Y. (2023). Learners in the Metaverse: A Systematic Review on the Use of Roblox in Learning. Education Sciences, 13(3), 296. https://doi.org/10.3390/educsci13030296

Holmgren, H. G., Booth, M. A., Ashby, S., Coyne, S. M., Clifford, B. N., & Davis, E. (2024). Patterns of parent media use: The influence of parent media use profiles on parental mediation, technoference, and problematic media use. Computers in Human Behavior, 161, 108410. https://doi.org/10.1016/j.chb.2024.108410

Kar, S. S., Dube, R., Goud, B. K. M., Gibrata, Q. S., El-Balbissi, A. A., Salim, T. A. A., & Fatayerji, R. N. M. A. K. (2025). Impact of Screen Time on Development of Children. Children, 12(10). https://doi.org/10.3390/children12101297

Köhler-Dauner, F., Peter, L., Sitarski, E., Chauviré-Geib, K., Haag, A.-C., & Fegert, J. M. (2025). Digital child protection in social networks: Age verification and age-tiered regulation in Europe. Child and Adolescent Psychiatry and Mental Health, 19(1), 143. https://doi.org/10.1186/s13034-025-01016-x

Laakso, N. L., Korhonen, T. S., & Hakkarainen, K. P. J. (2021). Developing students' digital competences through collaborative game design. Computers & Education, 174, 104308. https://doi.org/10.1016/j.compedu.2021.104308

Livingstone, S., Ólafsson, K., Helsper, E. J., Lupiáñez-Villanueva, F., Veltri, G. A., & Folkvord, F. (2017). Maximizing Opportunities and Minimizing Risks for Children Online: The Role of Digital Skills in Emerging Strategies of Parental Mediation. Journal of Communication, 67(1), 82–105. https://doi.org/10.1111/jcom.12277

Lundtofte, T. E. (2021). Contesting digital leisure time: Parental struggles in relation to young children's play with tablets at home. Nordicom Review/NORDICOM Review, 42, 94–106. https://doi.org/10.2478/nor-2021-0043

Mallawaarachchi, S., Burley, J., Mavilidi, M. F., Howard, S. J., Straker, L., Kervin, L., Staton, S., Hayes, N., Machell, A., Torjinski, M., Brady, B., Thomas, G., Horwood, S., White, S., Zabatiero, J., Rivera, M. C., & Cliff, D. P. (2024). Early Childhood Screen Use Contexts and Cognitive and Psychosocial Outcomes. JAMA Pediatrics, 178(10), 1017–1017. https://doi.org/10.1001/jamapediatrics.2024.2620

Masoumi, D., & Bourbour, M. (2024). Framing adequate digital competence in early childhood education. Education and Information Technologies, 29(15), 20613–20631. https://doi.org/10.1007/s10639-024-12646-7

Morawska, A., Mitchell, A. E., & Tooth, L. (2023). Managing Screen Use in the Under-Fives: Recommendations for Parenting Intervention Development. Clinical Child and

https://doi.org/10.51878/learning.v6i3.11665

Family Psychology Review, 26(4), 943–956. https://doi.org/10.1007/s10567-023-00435-6

Moreno, M. A., Radesky, J., Walsh, M. C., & Tomopoulos, S. (2024). The Family Media Plan. Pediatrics, 154(6), e2024067417. https://doi.org/10.1542/peds.2024-067417

Ochoa, W., & Reich, S. M. (2020). Parents' Beliefs About the Benefits and Detriments of Mobile Screen Technologies for Their Young Children's Learning: A Focus on Diverse Latine Mothers and Fathers. Frontiers in Psychology, 11. https://doi.org/10.3389/fpsyg.2020.570712

Oró, M. G. i. (2021). Mediación digital parental. ¿Es necesaria una educación digital en la primera infancia? Edutec Revista Electrónica de Tecnología Educativa, 76, 7–21. https://doi.org/10.21556/edutec.2021.76.2037

Ponti, M. (2023). Screen time and preschool children: Promoting health and development in a digital world. Paediatrics & Child Health, 28(3), 184–192. https://doi.org/10.1093/pch/pxac125

Qi, J., Yan, Y., & Yin, H. (2023). Screen time among school-aged children of aged 6–14: A systematic review. Global Health Research and Policy, 8(1), 12. https://doi.org/10.1186/s41256-023-00297-z

Qian, M., & Clark, K. R. (2016). Game-based Learning and 21st century skills: A review of recent research. Computers in Human Behavior, 63, 50–58. https://doi.org/10.1016/j.chb.2016.05.023

Shin, W., & Li, B. (2017). Parental mediation of children's digital technology use in Singapore. Journal of Children and Media, 11(1), 1–19. https://doi.org/10.1080/17482798.2016.1203807

Soyoof, A., Reynolds, B. L., Neumann, M., Scull, J., Tour, E., & McLay, K. (2024). The impact of parent mediation on young children's home digital literacy practices and learning: A narrative review. Journal of Computer Assisted Learning, 40(1), 65–88. https://doi.org/10.1111/jcal.12866

Toopmongkol, W. A., Saiyee, N. C., & B. Jaihuek, S. (2025). Evaluating the Impact of Roblox-Based Interactive Media on English Learning Outcomes and Engagement at Chiang Rai Rajabhat University. International Journal of Information and Education Technology, 15(11), 2436–2440. https://doi.org/10.18178/ijiet.2025.15.11.2439

Vedechkina, M., & Borgonovi, F. (2021). A Review of Evidence on the Role of Digital Technology in Shaping Attention and Cognitive Control in Children. Frontiers in Psychology, 12. https://doi.org/10.3389/fpsyg.2021.611155

Wu, C.-H., Chien, Y.-C., Chou, M.-T., & Huang, Y.-M. (2025). Integrating computational thinking, game design, and design thinking: A scoping review on trends, applications, and implications for education. Humanities and Social Sciences Communications, 12(1), 163. https://doi.org/10.1057/s41599-025-04502-x

Yılmaz, E., & Griffiths, M. D. (2023). Children's social problem-solving skills in playing videogames and traditional games: A systematic review. Education and Information Technologies, 28(9), 11679–11712. https://doi.org/10.1007/s10639-023-11663-2

https://doi.org/10.51878/learning.v6i3.11665