How AI is Reshaping Creativity: DeepSeek vs ChatGPT Plus in LEGO® SERIOUS PLAY®

António Almeida[1(✉)], Denise Meyerson[2], and Inês Almeida[3,4,5]

[1] Instituto Superior de Ciências Sociais e Políticas da Universidade de Lisboa, Lisbon, Portugal
a_jose_almeida@sapo.pt
[2] University of the Witwatersrand, Johannesburg, South Africa
[3] Autónoma Techlab, Universidade Autónoma de Lisboa, Lisbon, Portugal
[4] Instituto de Telecomunicações, Aveiro, Portugal
[5] FCT, Nova University of Lisbon, Caparica, Portugal

Abstract. This study investigates how generative artificial intelligence (AI) models—specifically ChatGPT Plus (with and without the Projects feature) and DeepSeek—can support the design of LEGO® SERIOUS PLAY® session plans. Through a systematic reflexive content analysis methodology, we evaluate the originality, structure, and methodological fidelity of AI-generated LSP session plans across two distinct thematic areas: Creative Leadership and Building Team Trust. Our multi-layered evaluation framework includes content analysis, session structure mapping, and a temporal triangulation protocol that compensates for the limitations of single-researcher evaluation. Findings reveal that ChatGPT Plus with Projects exhibits superior consistency and alignment with LSP principles (scoring 13.7/15 on our composite index), while DeepSeek demonstrates strengths in information synthesis but limited session structuring (8.9/15). Comparative analysis of AI-generated facilitator prompts reveals significant qualitative differences, with ChatGPT Plus with Projects producing questions with greater metaphorical depth and nuance, creating space for participants to explore complex dimensions of the themes. The study contributes to the fields of creativity, participatory facilitation, and AI by providing an evidence-based framework for assessing AI support in creative methodologies and offers practical guidelines for facilitators seeking to leverage AI as a collaborative partner in session design. Our prompt engineering protocol, detailed in this paper, provides a replicable template for facilitators and researchers exploring AI-human collaboration in experiential learning design.

Keywords: Creativity · Artificial Intelligence · LEGO® SERIOUS PLAY® · Generative AI · ChatGPT Plus; DeepSeek

1 Introduction

Creativity can be described as the ability to generate new ideas, concepts, or solutions that are original and useful within a given context [1]. LEGO® SERIOUS PLAY® is a methodology that uses LEGO® bricks as a facilitating tool to enhance systemic creativity

I. Alvarez et al. (Eds.): ETHICOMP 2025, LNCS 15939, pp. 69–78, 2026.
https://doi.org/10.1007/978-3-032-01429-0_7

and problem-solving [2]. Based on theories of play, constructivism, and constructionism, this approach encourages participants, during group sessions, to build models representing professional and/or personal scenarios, thereby stimulating their creative thinking [3].

The playful environment of LEGO® SERIOUS PLAY® creates a relaxed and familiar space, reducing psychological barriers and encouraging experimentation, allowing all participants to explore new perspectives without limitations, significantly expanding their creative potential [4]. In each session, participants receive a set of LEGO® bricks, and the facilitator presents a challenge in the form of a question, which must be answered by building a model [5]. Each participant has a limited amount of time to construct their model and, at the end of this period, is encouraged to explain their construction through an individual narrative. The act of building with hands and interacting with the model allows participants to externalize their mental models, encouraging them to express their ideas intuitively and spontaneously [6]. Furthermore, the verbalization process activates the emotional and associative side of the brain, promoting creative and authentic solutions [7]. At the end of each session, participants collaborate in building a collective model, where they are encouraged to exchange ideas and integrate different individual perspectives into a shared narrative. The process follows a structured flow in which each individual constructs their vision of a specific topic, providing a diversity of approaches that, when combined, result in a more robust and innovative collective perspective [8].

The LEGO® SERIOUS PLAY® methodology enables participants to externalize and visualize abstract ideas, transforming them into concrete representations through metaphors that help overcome creative blocks [9]. Unlike traditional approaches, where logical analysis precedes creation, LEGO® SERIOUS PLAY® encourages participants to build first and rationalize afterward, fostering a more fluid and innovative thought process [10].

Currently, Artificial Intelligence (AI) plays an increasingly relevant role in facilitating creative processes. In the context of LEGO® SERIOUS PLAY®, AI can enhance creativity when used to support session design, known as the session plan, following the principles of LEGO® SERIOUS PLAY® [11],. AI can generate ideas, structure scripts, create facilitating questions, and adapt the process according to participants objectives and profiles. Each LEGO® SERIOUS PLAY® session plan comprises different phases, including briefing, warm-up, individual activities, collective dynamics, and debriefing [11].

One key challenge when integrating AI into the LEGO® SERIOUS PLAY® methodology is ensuring that generative AI models truly understand and adhere to the structured facilitation process. A potential avenue for exploration is the development of a dedicated GPT model specifically trained to generate session plans aligned with the official LEGO® SERIOUS PLAY® methodology. Such a model could be fine-tuned with structured input, incorporating elements such as client context, desired outcomes, participant profiles, and time constraints. This structured approach would enhance the reliability and consistency of AI-generated session plans, mitigating the common issue where general AI models sometimes deviate from the methodology and instead generate loosely structured activities that resemble free play rather than a guided facilitation process [12].

This study analyses the role of two generative AI tools, ChatGPT Plus and DeepSeek, in generating session plans and facilitating questions for LEGO® SERIOUS PLAY® to enhance creativity. ChatGPT, developed by OpenAI, uses the Generative Pre-trained Transformer (GPT) architecture and stands out for its ability to process natural language, adapt to different contexts, and generate coherent and relevant responses. ChatGPT Plus, the premium version of OpenAI chatbot, provides access to GPT-4, which offers improved reasoning capabilities, longer context windows, and more accurate responses compared to the free version, which is limited to GPT-3.5. DeepSeek [13] is an emerging open-source alternative that allows anyone to access, modify, and distribute the software's source code for free. This generative AI tool differentiates itself by focusing on information retrieval and synthesis, offering an approach more oriented toward knowledge extraction and response optimization [14]. Both models can be used to stimulate creativity and structure session plans in the LEGO® SERIOUS PLAY® context, expanding possibilities for innovation, collaboration, and communication. These two generative AI tools offer distinct features that may benefit different user needs [12].

To improve the validity of AI-generated session plans, this study also explores the use of standardized session templates, outlining facilitator objectives, expected outcomes, participant demographics, and available time constraints. By providing AI models with structured input, the study aims to compare the effectiveness of different AI generated session plans more reliably, ensuring that results are evaluated within a standardized framework rather than in an ad hoc manner [11].

This study contributes theoretically to the intersection of creativity, participatory methodologies, and artificial intelligence by exploring how generative AI tools can support and transform the facilitation of LEGO® SERIOUS PLAY® session plans [2]. The research is based on a comparative study between ChatGPT Plus and DeepSeek in generating session plans for LEGO® SERIOUS PLAY® that enhance creativity. The study employs a qualitative and experimental approach, where multiple AI-generated session plans are analyzed and compared in terms of originality, adequacy, and applicability [5]. Additionally, the session plans and their respective facilitating questions created by AI models are examined and compared with those developed by human facilitators [3]. The expected results include evaluating AI's ability to structure effective LEGO® SERIOUS PLAY® sessions, identifying patterns and limitations in AI-generated session plans, comparing the diversity between automatically generated and manually designed questions, and exploring AI impact on facilitation dynamics and participant autonomy [6].

This paper explores this frontier by comparing how three AI configurations—ChatGPT Plus (GPT-4), ChatGPT Plus with Projects, and DeepSeek—perform in generating LEGO® SERIOUS PLAY® session plans. Rather than implementing the plans in real sessions, we take a methodological approach, evaluating the quality of the generated outputs through a rigorous comparative lens. The central question is whether AI can support or even transform the way facilitators approach LEGO® SERIOUS PLAY® design. This study aims to:

1. Evaluate the capability of different AI tools to generate methodologically sound LEGO® SERIOUS PLAY® session plans

2. Compare the quality of AI-generated plans across multiple dimensions including structure, creativity, and fidelity to LEGO® SERIOUS PLAY® principles
3. Identify patterns of strengths and weaknesses across different AI architectures
4. Develop a replicable prompt engineering protocol for LEGO® SERIOUS PLAY® facilitators seeking to use AI as a design partner

Building on this foundation, this study further investigates which generative AI tool: ChatGPT Plus or DeepSeek best meets the needs of LEGO® SERIOUS PLAY® facilitators, considering factors such as generating creative questions, structuring sessions, and supporting the facilitation process. The comparative analysis explores how each model responds to facilitators' requirements in terms of flexibility, relevance of suggestions, and practical applicability. Although both tools have the potential to optimize different aspects of LEGO® SERIOUS PLAY®, this study aims to identify which one offers more effective support and aligns better with session dynamics, providing an empirical basis for integrating AI into the facilitation of creative processes [13]. The significance of this research extends beyond LEGO® SERIOUS PLAY® to the broader field of creative facilitation, providing insights into how AI might complement human expertise in designing participatory experiences. As Mollick and Mollick suggest, AI has the potential to serve as a "thought partner" rather than a replacement for human creativity, potentially enhancing rather than diminishing the facilitator's role.

2 Methodology

2.1 Research Design

The research was structured in four sequential phases, each employing specific techniques to ensure methodological rigor:

1. **Generation Phase:** Creation of session plans using standardized prompts across all AI tools
2. **Primary Evaluation Phase:** Initial assessment using our multi-layered rubric
3. **Temporal Re-evaluation Phase:** Reassessment after 14 days to verify analytical consistency
4. **Final Comparative Analysis:** Cross-case examination to identify patterns and variations

This phased approach, combined with rigorous documentation of reflexive processes, ensured that methodological limitations of single-researcher evaluation were systematically addressed and compensated for through temporal triangulation.

2.2 Tools and Data Collection

Three generative AI tools were selected based on their accessibility, prominence, and technical characteristics, ChatGPT Plus (GPT-4), ChatGPT Plus with Projects and DeepSeek.

All interactions with the AI tools were conducted between February 16 and March 16, 2025, using the most current versions available at that time. For DeepSeek and

ChatGPT Plus, dedicated chats were used, while for ChatGPT Plus with Projects, we created a dedicated project titled "LEGO® SERIOUS PLAY® Workshop Designer" that included additional context about LEGO® SERIOUS PLAY® theoretical foundations from official training materials.

To ensure consistency and valid comparison, an identical prompt template was used across all three AI tools. The prompt used was:

```
Role: You are an expert LEGO SERIOUS PLAY facilitator with
certification and 5+ years of experience designing workshop
experiences.

Task: Create a detailed 90-minute LEGO SERIOUS PLAY work-
shop plan on the theme of <Theme>.

Audience: The session will involve 12 participants who are
mid-level managers in a technology company.

Goals: The primary goals of this session are to:
1. Help participants explore their understanding of [THEME]
2. Identify personal and organizational barriers related
to [THEME]
3. Co-create solutions that address these barriers
4. Develop actionable next steps for implementation

Methodology: Your plan must follow LEGO® SERIOUS PLAY®
methodology including:
- A skills building warm-up phase (5-15 minutes)
- Individual model building before sharing (everyone
builds, everyone shares)
- Clear, open-ended questions that encourage metaphorical
thinking
- A sequence that builds from individual to shared models
- Time allocations for each phase


- Adherence to the principle that "the builder owns the
meaning"
- Story-first, questions-later approach to model sharing

Format: Structure your plan with clear headings, timing,
instructions, and facilitator notes.

Output: Provide a complete, ready-to-use session plan that
a certified facilitator could implement without additional
preparation.
```

This prompt was systematically applied for each thematic area (Creative Leadership and Building Team Trust) across all three AI tools, ensuring methodological consistency while allowing for valid comparison of outputs.

2.2.1 Corpus

Each tool generated two session plans based on the two different themes. In total, nine session plans were produced by AI. For comparative purposes, we included a reference plan authored by a certified LEGO® SERIOUS PLAY® facilitator with over 5 years of experience, using the same thematic constraints. The data collection process involved recording all interactions with the AI tools, including any requests for clarification. It also included cataloging the generated plans, analyzing their structure, and identifying any unusual or innovative elements. Additionally, structure maps were created to visualize the flow and components of each plan. Finally, similarities and differences between plans addressing the same theme were documented.

2.3 Evaluation Framework

We developed a multi-layered assessment approach that triangulates different analytical perspectives and incorporates structured reflexivity based on Structured Content Analysis, Content Analysis and Methodological Fidelity Assessment.

2.3.1 Structured Content Analysis

We performed a systematic mapping of each session plan against the canonical LEGO® SERIOUS PLAY® structure, identifying the presence, sequencing, and time allocation for each required phase:

- Introduction and Context Setting
- Skills Building (Warm-up)
- Individual Building Challenge
- Sharing and Storytelling
- Collective Model Building
- Reflection and Meaning-making
- Closure and Action Planning

This mapping produced a structural completeness score (0–5) and identified any methodological omissions or innovations.

2.3.2 Content Analysis

We conducted a detailed content analysis of the building prompts and facilitation instructions, examining:

- **Question Quality**: Openness, metaphorical potential, and alignment with thematic goals
- **Language Patterns**: Instructional clarity, emotional resonance, and inclusivity
- **Facilitation Guidance**: Appropriateness of suggested interventions and debriefing questions

This analysis yielded a creativity score (0–5) and insights into the linguistic patterns of each AI model.

2.3.3 Methodological Fidelity Assessment

Using a checklist derived from official LEGO® SERIOUS PLAY® training materials, we evaluated each plan's adherence to core LEGO® SERIOUS PLAY® principles:

- Build First, Talk Later
- Everyone Builds, Everyone Shares
- The Builder Owns the Meaning
- Questions Before Answers

This assessment produced a fidelity score (0–5) and identified any principles that were consistently misunderstood or omitted by the AI models.

2.4 Reflexivity Practices and Reliability Measures

To enhance the reliability of our evaluation despite the constraint of limited evaluators, we implemented several methodological safeguards centered around structured reflexivity:

- **Structured Reflexive Journal**: Throughout the analytical process, we maintained a structured reflexive journal documenting initial impressions before systematic coding, challenges in applying evaluation criteria, emergent questions during analysis, reflections on potential personal biases, and decision-making rationales.
- **Temporal Triangulation**: The evaluator assessed each plan twice, with a 14-day interval between evaluations, to check for consistency. This temporal separation created cognitive distance between assessments, allowing inconsistencies or shifts in interpretation to surface naturally.
- **Structured Coding Protocol**: We developed explicit coding rules for each evaluation dimension, ensuring consistent application of criteria.
- **External Face Validation**: We shared selected plans with a certified LEGO® SERIOUS PLAY® facilitator external to the research team for feedback on face validity.

3 Results

Our evaluation revealed significant differences in how each AI tool approached the generation of LEGO® SERIOUS PLAY® session plans. Table 1 presents the composite scores across our three assessment dimensions.

ChatGPT Plus with Projects consistently outperformed the other AI tools, with composite scores approaching those of the human facilitator reference plan. DeepSeek demonstrated particular weaknesses in methodological fidelity, often diverging from core LEGO® SERIOUS PLAY® principles.

The structural completeness of session plans varied significantly between tools. ChatGPT Plus with Projects closely mirrored the human facilitator balance across phases, particularly in allocating sufficient time for collective model building and reflection. DeepSeek consistently overallocated time to introductory content while underallocating time for the critical collective model building phase.

The nature of building prompts and facilitation questions proved to be a key differentiator between tools. Table 2 presents a qualitative comparison of representative building prompts from each AI tool.

Table 1. Composite Evaluation Scores by AI Tool and Theme

AI Tool	Theme	Structure Score (0–5)	Creativity Score (0–5)	Fidelity Score (0–5)	Composite Score (0–15)
ChatGPT Plus	Creative Leadership	4.3	3.8	4.1	12.2
ChatGPT Plus	Building Team Trust	4.1	3.9	4.0	12.0
ChatGPT Plus with Projects	Creative Leadership	4.7	4.5	4.6	13.8
ChatGPT Plus with Projects	Building Team Trust	4.6	4.3	4.7	13.6
DeepSeek	Creative Leadership	3.2	3.8	2.0	9.0
DeepSeek	Building Team Trust	3.1	3.7	2.1	8.9
Human Facilitator (Reference)	Creative Leadership	4.9	4.8	5.0	14.7

Table 2. Representative Building Prompt Comparison (Building Team Trust Theme)

AI Tool	Building Prompt	Analysis
ChatGPT Plus	"Using your LEGO bricks, build a model that represents what trust means to you in your team."	Basic metaphorical prompt, somewhat generic
ChatGPT Plus with Projects	"Using your LEGO bricks, construct a model that represents what trust looks like when it's thriving in your team. Consider both visible and invisible elements that contribute to this trust."	Rich metaphorical potential, layered complexity, invites deeper reflection
DeepSeek	"Build a model showing team trust."	Directive, closed, limited metaphorical potential

ChatGPT Plus with Projects consistently generated questions with greater metaphorical depth and nuance, creating space for participants to explore complex dimensions of the themes. DeepSeek's questions tended toward the literal and directive, limiting creative exploration.

Adherence to core LEGO® SERIOUS PLAY® principles varied significantly across tools. ChatGPT Plus with Projects demonstrated strong alignment with all four key principles, while DeepSeek showed consistent misunderstandings, particularly around "The Builder Owns the Meaning" and "Build First, Talk Later" principles.

A pattern emerged where DeepSeek frequently included directive interpretations of participant models, violating the principle that meaning belongs to the builder. For example, in the Building Team Trust session plan, DeepSeek included facilitator notes such as: "If participants build walls or barriers, highlight how these represent communication challenges that need addressing."

This contrasts sharply with ChatGPT Plus with Projects, which consistently included guidance like: "Listen carefully to each participant's story without interpretation. Ask clarifying questions only after they have fully shared the meaning of their model."

Each AI tool demonstrated different innovative approaches to session design. ChatGPT Plus with Projects uniquely incorporated layered building challenges that built upon previous models, creating narrative continuity throughout the session. For example, in the Creative Leadership theme, it suggested: "Now add to your leadership model something that represents how your leadership approach changes under pressure."

DeepSeek, despite methodological limitations, excelled at synthesizing relevant theoretical frameworks into session introductions, drawing connections to established leadership and team dynamics theories. However, this sometimes came at the expense of actual building time.

4 Conclusion

This study provides empirical evidence that generative AI tools can support the design of methodologically sound LEGO® SERIOUS PLAY® session plans, though with varying degrees of effectiveness. ChatGPT Plus with Projects emerged as the superior tool, demonstrating strong alignment with LEGO® SERIOUS PLAY® principles and generating session plans that approached the quality of those created by experienced human facilitators.

Our research found that ChatGPT Plus with Projects excelled in structural coherence and methodological fidelity, while DeepSeek demonstrated strengths in theoretical synthesis but struggled with core methodological principles. The addition of specialized project context in ChatGPT Plus with Projects substantially improved output quality, suggesting that AI tools require specific methodological knowledge to generate effective session plans. All AI tools occasionally struggled with optimization and sometimes overstructured the sharing process, potentially limiting emergent conversation. Our standardized prompt template proved effective in guiding AI output toward methodologically sound session plans, highlighting the importance of clear constraint specification.

These findings have significant implications for LEGO® SERIOUS PLAY® practitioners. Rather than replacing human expertise, AI tools like ChatGPT Plus with Projects can serve as valuable thought partners in the session design process, offering creative alternatives and structural templates that facilitators can refine. The most effective application may be a collaborative approach where AI generates initial session structures that human facilitators then customize based on specific client needs and contextual factors.

Limitations of this study include the single-researcher evaluation approach (mitigated through temporal triangulation) and the focus on plan quality rather than implementation outcomes. Future research should explore how AI-generated plans perform in actual workshop settings and investigate how facilitators might most effectively collaborate with AI tools during the design process.

In conclusion, while AI tools cannot yet fully replace human expertise in LEGO® SERIOUS PLAY® facilitation, they demonstrate considerable potential as design partners, particularly when provided with appropriate methodological context. ChatGPT Plus with Projects represents the current state-of-the-art for this application, offering facilitators a valuable resource for creative session design.

References

1. Meyerson, D.: Better, best, brilliant: The essential guide for trainers and facilitators. Post Pre-Press Group (2013)
2. Benesova, N.: LEGO® Serious Play® in management education. Cogent Educ. **10**(1), 2262284 (2023)
3. Roos, J., Victor, B.: How it all began: the origins of LEGO® Serious Play®. Int. J. Manage. Appl. Res. **5**(4), 326–343 (2018)
4. Zenk, L., Primus, D.J., Sonnenburg, S.: Alone but together: flow experience and its impact on creative output in LEGO® Serious Play®. Eur. J. Innov. Manage. **25**(6), 340–364 (2022)
5. Kriszan, A., Nienaber, B.: Researching playfully? Assessing the applicability of LEGO® Serious Play® for researching vulnerable groups. Societies **14**(15), 1–11 (2024)
6. Zarndt, F.: Unlocking student creativity with LEGO® Serious Play: a case study from the graduate marketing classroom. Mark. Educ. Rev. **34**(2), 105–119 (2024)
7. Nerantzi, C., James, A.: LEGO® for university learning: online, offline and elsewhere (2022)
8. Meyerson, D., Smith, J.L., Walling, S.J.: Strategic play: The creative's facilitator's guide. What the Duck! (2017)
9. Tawalbeh, M., Riedel, R., Dempsey, M., Emanuel, C.: LEGO® Serious Play® as a business innovation enabler. Technische Universität Chemnitz (2018)
10. Wheeler, A.: LEGO® Serious Play® and higher education: encouraging creative learning in the academic library. Insights **36**(8), 1–8 (2023)
11. Pérez, J., Castro, M., López, G.: Serious games and AI: challenges and opportunities for computational social science. IEEE Access **11**, 62051–62061 (2023)
12. Mollick, E.R., Mollick, L.: Instructors as innovators: a future-focused approach to new AI learning opportunities, with prompts. Wharton Sch. Res. Pap. (2024)
13. Wang, Y., Pan, Y., Yan, M., Su, Z., Luan, T.H.: A survey on ChatGPT: AI-generated contents, challenges, and solutions. IEEE Xplore (2023)
14. Guo, D., et al.: Deepseek-r1: incentivizing reasoning capability in llms via reinforcement learning (2025). arXiv preprint arXiv:2501.12948