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Building and Narration with LEGO® SERIOUS PLAY®: A Universal Design Perspective for Inclusion

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ABSTRACT

LEGO® SERIOUS PLAY® (LSP), developed in the late 1990s as a device for strategic facilitation, has progressively consolidated as a participatory and creative methodology, grounded in constructivism, constructionism, and the use of metaphors as tools of embodied cognition (thinking by hands). Although it is not an educational method per se, LSP resonates with pedagogical traditions that emphasize concreteness and manual activity: from Montessori it inherits the idea of "thinking with the hands," while Papert's constructionism highlights the role of cognitive artefacts as mediators of knowledge-building and narration. This conceptual paper explores how LSP can be reframed through a UDL-informed perspective on inclusion, without altering its methodological structure, but by introducing adjustments consistent with the principles of Universal Design for Learning (UDL). Drawing on theoretical analysis and exploratory observations from accessibility-oriented adaptations of LSP sessions, it does not aim to report a systematic empirical evaluation, but rather to propose a design framework for making LSP environments more accessible, predictable, and participatory. In this perspective, UDL provides the theoretical framework guiding the design of accessible environments and practices through multiple means of representation (multimodal prompts, high-contrast visual supports), multiple means of action and expression (inclusive facilitation, alternative narrative formats), and multiple means of engagement (flexible timing, safe settings, recognition of diverse contributions). The contribution aims to enrich the international debate on the relationship between participatory methodologies and universal design principles, highlighting how LSP, when properly adapted, may serve as an inclusive device capable of enabling the participation of all learners and workers in educational, academic, and organisational contexts, thereby democratizing the construction and sharing of meaning.

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1. Introduction

Inclusion has become a central paradigm in contemporary educational and organisational research (Ainscow & César, 2006; Florian, 2015), reshaping how we conceive participation, learning, and the very act of meaning-making.

Across the last decades, policies and pedagogies have moved from a compensatory view of inclusion — one that seeks to "adapt" individuals to pre-existing systems — to a design-based view, which asks instead how systems themselves can be conceived to welcome and sustain diversity from the outset. This transition parallels a broader epistemological shift: from the transmission of knowledge to the co-construction of meaning (Bruner, 1996; Vygotsky, 1978), from individual performance to collective participation, and from abstract cognition to embodied and situated learning.

Within this landscape, methodologies that privilege active, creative, and participatory engagement have acquired growing importance. Practices that integrate narration, collaboration, and the manipulation of materials respond to an increasingly complex challenge: how to design learning environments that are cognitively rich, emotionally safe, and socially inclusive at the same time.

Among these, LEGO® SERIOUS PLAY® (LSP) represents a particularly intriguing case (Kristiansen & Rasmussen, 2014). Developed in the late 1990s within the LEGO® Group and the IMD Business School in Lausanne (Switzerland), LSP was originally intended as a method for strategic facilitation in organisational settings. Over time, however, it has evolved into a participatory methodology that combines construction, metaphor, and narration to promote shared understanding and collective reflection.

At its core, LSP invites participants to build three-dimensional models that metaphorically express their thoughts, experiences, or ideas. Through this process, thinking becomes tangible, visible, and shareable.

The act of *thinking by hands* (Kristiansen & Rasmussen, 2014) transforms the individual's internal representations into physical artefacts that can be observed, discussed, and transformed. From a theoretical perspective, LSP draws simultaneously on Piaget's constructivism (Piaget, 1969), which conceives learning as the active construction of mental models through interaction with the environment, and Papert's constructionism (Papert & Harel, 1991), which extends this idea by emphasising the role of artefacts as mediators of learning. According to Papert, we learn best when we construct something external and shareable — a sandcastle, a machine, a poem, or, in this case, a LEGO® model.

This idea resonates with Dewey's principle of experiential education and with the more recent framework of embodied cognition (Lakoff & Johnson, 1999; Wilson, 1999), which recognises that cognition is not confined to the brain but is enacted through the body's interaction with materials, tools, and contexts. The hand, in this view, is not merely an instrument of execution but a cognitive organ that shapes thought through manipulation, gesture, and rhythm.

Despite its widespread diffusion in educational, corporate, and therapeutic contexts (Frick et al., 2013), LSP has rarely been examined through an inclusive design lens.

Workshops are typically conducted through oral prompts and spontaneous pacing; even when facilitation norms are explicit and well-structured, participation may still be shaped by interactional demands, which can unintentionally privilege participants with specific cognitive or linguistic profiles.

Those who need more time to process instructions, those who rely on visual rather than auditory cues, or those who communicate through alternative modalities may find themselves partially

excluded from the collaborative flow. This paradox is striking: a methodology born to democratise participation often risks reproducing subtle forms of exclusion.

The present paper addresses this paradox by proposing a reframing of LEGO® SERIOUS PLAY® through the lens of Universal Design for Learning (UDL). We intentionally refer to *Universal Design for Learning* rather than to *Universal Design* (*UD*) more broadly, because the accessibility we are concerned with here is not primarily architectural or ergonomic but cognitive, communicative, and relational. UDL, developed by Meyer, Rose, and Gordon (2014), provides an educational and cognitive framework precisely suited for this purpose. It conceptualises learner variability as intrinsic rather than exceptional, and proposes that learning environments be designed from the outset to offer multiple means of representation, multiple means of action and expression, and multiple means of engagement.

Each principle addresses a dimension of human diversity: how we perceive and comprehend information, how we act and express ourselves, and how we sustain motivation and participation over time.

By applying UDL principles to LSP, the focus shifts from *remediation* to *design*. The question is no longer "how to adapt LSP for specific participants," but rather "how to design LSP sessions that are inherently accessible to all." This shift aligns with a broader movement in inclusive education that replaces the logic of adjustment with that of anticipation — an approach sometimes summarised as *designing for variability rather than for average* (Rose & Meyer, 2002). In practical terms, this means that facilitators can embed accessibility in every phase of the LSP process: through multimodal instructions (verbal, written, visual), flexible timing, alternative narrative formats (oral, written, symbolic), and the explicit visualisation of rules and phases to enhance predictability and psychological safety.

The purpose of this paper is to outline such a UDL-informed perspective on LEGO® SERIOUS PLAY®, arguing that small but deliberate design decisions can significantly enhance participation and equity of voice, without altering the method's core structure or philosophy. In doing so, we aim to contribute to the international debate on how participatory methodologies — often celebrated for their creativity — can also become genuinely inclusive and accessible.

As a conceptual contribution, the paper has some limitations that should be made explicit. The adaptations discussed here are informed by theoretical analysis and exploratory observations, but they have not yet been evaluated through a systematic empirical design. Moreover, implementing UDL-informed LSP workshops may increase the planning burden for facilitators, who must prepare multimodal prompts, accessible materials, flexible timing structures, and differentiated expressive options. Further constraints may concern the cost and availability of diversified materials, such as tactile supports, high-contrast cards, or digital accessibility tools. These limitations do not reduce the relevance of the proposed framework, but they indicate the need for future empirical studies and for low-cost, reusable accessibility toolkits.

The paper is organised into three further sections. The second section presents the theoretical and methodological foundations of LEGO® SERIOUS PLAY®, highlighting its constructivist, constructionist, and narrative roots. The third section discusses how LSP can be reinterpreted through the principles of UDL, proposing concrete adaptations that maintain methodological fidelity while expanding accessibility. Finally, the fourth section reflects on the broader implications of this reframing for inclusive education, professional development, and collaborative learning environments.

2. LEGO® SERIOUS PLAY®: Origins, Principles, and Pedagogical Resonances

LEGO® SERIOUS PLAY® (LSP) emerged in the late 1990s (Roos & Victor, 1999; Kristiansen & Rasmussen, 2014) from a collaboration between Kjeld Kirk Kristiansen, CEO of the LEGO® Group, and scholars Johan Roos and Bart Victor of the IMD Business School in Lausanne. At the time, LEGO® faced a major strategic crisis: the global spread of digital gaming was reshaping children's play habits and eroding the company's traditional markets. Seeking to revitalise creativity and organisational culture, Kristiansen and the IMD team explored how the company's core product — the LEGO® brick — could be used as a thinking tool, not merely as a toy.

The result was the establishment of Executive Discovery (Kristiansen & Rasmussen, 2014), a small spin-off company within LEGO® devoted to developing a method that would allow managers and teams to *build* strategies rather than only talk about them.

The intuition was radical in its simplicity: when people build physical representations of their ideas, they access forms of tacit knowledge that remain inaccessible through abstract discussion. The hand becomes a bridge between imagination and reasoning. This embodied act of construction enables participants to externalise implicit models, to see and negotiate them collectively, and to reflect on their relationships in tangible ways. In the words of its early designers, LEGO® SERIOUS PLAY® was intended to *help organisations think through their hands* (Roos & Victor, 1999).

By 1999, under the guidance of Robert Rasmussen—who would later co-author the first official account of the method (Kristiansen & Rasmussen, 2014) and had previously served as director of product development in LEGO® Education—the approach took a decisive pedagogical turn. Rasmussen drew explicitly on the constructivist and constructionist legacies of Jean Piaget and Seymour Papert, grounding the practice in the idea that learning is most effective when it involves active manipulation of meaningful artefacts.

Piaget (1969) had described learning as a process of *assimilation and accommodation*, where individuals construct internal cognitive structures through interaction with their environment. Papert (1980) expanded this perspective by proposing constructionism, the notion that people learn best when they create tangible objects that can be shared, reflected upon, and transformed, so when we build in the world, we build in the mind. This view aligns perfectly with the LSP philosophy: building a model is building a story, and every model is a narrative object that connects action, reflection, and imagination.

LSP also resonates with Maria Montessori's earlier insight that the hands are the instruments of man's intelligence (Montessori, 1949). Montessori had argued that imagination and conceptualisation are grounded in manipulation — the capacity to touch, assemble, and transform materials.

LSP inherits from this tradition a faith in concrete thought, the idea that handling physical materials allows abstract concepts to become visible, negotiable, and emotionally anchored. In this sense, the LEGO® brick operates as a cognitive artefact (Norman, 1991) — a material mediator that supports reflection and dialogue. The simplicity and modularity of the bricks enable participants to engage creatively without needing artistic skills or specialised tools. The process focuses not on aesthetic performance but on meaning-making, which makes the experience inherently democratic.

The heart of LSP lies in a facilitated four-phase cycle, known as the *Core Process*:

1. Challenge – The facilitator poses an open-ended question or challenge. The question is carefully crafted: it should invite personal interpretation and stimulate imagination,

avoiding binary or evaluative formulations. The question is the spark that sets the reflective process in motion.

2. Build – Each participant constructs a three-dimensional model in response. The model becomes a metaphor, a visual and tactile translation of the participant's thoughts, experiences, or ideas. This phase is usually performed in silence, allowing concentration and letting the hands guide the mind.
3. Share – Participants take turns to describe the meaning of their model, telling the story it represents. This phase embodies one of LSP's most distinctive principles: *equity of voice*. Everyone contributes, and all stories are listened to with equal attention.
4. Reflect – The group reflects on similarities, differences, and emerging patterns across the stories. The facilitator may pose clarifying or generative questions — but always to the model, not to the person — fostering dialogue without judgment or personal exposure.

This cyclical process transforms abstract ideas into shared artefacts of thought. By manipulating the same material set and by adhering to the same rules, participants operate under conditions of procedural equality: each person has an equal opportunity to build, to speak, and to be heard.

As Beltrami (2017) underlines, the LSP process embodies a shift from problem-solving to meaning-making: participants engage in a dialogical construction of knowledge where the artefact mediates both thought and emotion.

This element of structural democracy is one of LSP's most powerful features, distinguishing it from other collaborative techniques that rely heavily on verbal dominance or hierarchical negotiation.

Beyond its procedural structure, LSP is governed by a small set of ground rules that sustain psychological safety and trust.

First, participants agree that there are no right or wrong models — only multiple interpretations of the same question. Second, models belong to their builders: no one touches another's creation without explicit permission. Third, the discussion focuses on the model, not on the person who built it. This distinction prevents evaluative feedback and maintains a non-judgmental atmosphere.

Finally, everyone participates: no observer roles, no optional turns. Each person constructs and narrates their own response, ensuring that the conversation is genuinely collective. These rules are deceptively simple, yet they create a microcosm of inclusivity: a temporary community where difference is valued, and expression is plural.

From a cognitive standpoint, the use of metaphor and narrative plays a crucial role. A model does not communicate through literal resemblance; it functions as a metaphorical representation, allowing complex or sensitive issues to be explored at a safe distance. This symbolic mediation often enables participants to articulate ideas, emotions, or dilemmas that would remain unspoken in direct discussion (McCusker & Clifford Swan, 2018).

Moreover, the act of storymaking — preferred over *storytelling* — underlines that participants are not merely recounting pre-existing experiences but actively constructing meaning as they speak. In this sense, every LSP workshop becomes a laboratory of narrative co-creation.

Although LSP was not initially conceived as an educational method, its epistemological and procedural features align closely with the foundations of experiential and inclusive pedagogy. It translates the constructivist idea of *learning by doing* into a collaborative process of *learning by building and narrating*.

It operationalises reflection-in-action (Schön, 1983) by creating an iterative cycle of action, narration, and dialogue.

It also echoes Dewey's (1938) notion that experience becomes educational only when reflected upon and shared within a community of inquiry. In this respect, LSP can be interpreted as an embodied and dialogic pedagogy, one that gives physical form to the otherwise invisible processes of thought and interaction.

Furthermore, the methodology's intrinsic non-competitive and participatory *ethos* offers valuable lessons for inclusion (Gaspari, 2024; D'Alonzo & Giaconi, 2024). Because all participants work with identical materials and equal time, traditional hierarchies of power, status, or eloquence are temporarily suspended.

The facilitation process privileges *presence over performance*: everyone's model is valid, every story is listened to, and collective meaning arises through negotiation rather than persuasion.
This reconfiguration of participation reflects the principles of democratic education and anticipates the design logic of the UDL.

In summary, LEGO® SERIOUS PLAY® embodies a rare synthesis of manual, cognitive, and social dimensions of learning.

It bridges hand and mind, symbol and story, individual and collective understanding. Precisely because it is so deeply grounded in these embodied, multimodal processes, LSP provides fertile ground for a dialogue with UDL — a framework that similarly recognises the variability of human expression and the necessity of designing environments where all learners can build, share, and reflect together.

3. Reframing LEGO® SERIOUS PLAY® through the Principles of Universal Design for Learning

The potential of LSP to foster participation and shared understanding is widely acknowledged, yet its accessibility remains largely implicit.

The method's power derives from its universality as a symbolic and material language, but universality should not be mistaken for accessibility. A truly inclusive methodology does not rely on the assumption that "everyone can participate," but rather ensures, through design, that participation is intentionally enabled for every participant, regardless of cognitive, sensory, linguistic, or socio-cultural variability.

In this perspective, the framework of UDL provides a coherent and powerful lens through which to reinterpret and redesign LSP for inclusion.

The UDL framework (Meyer, Rose, & Gordon, 2014) extends the architectural principles of UD — originally developed to ensure physical accessibility — to the cognitive and affective architecture of learning environments.

UDL is grounded in neuroscientific research on learner variability (CAST, 2018) and in the understanding that learning involves three interdependent brain networks: the recognition network (the "what" of learning), the strategic network (the "how"), and the affective network (the "why"). Accordingly, the framework articulates three key principles for inclusive design:

1. Multiple Means of Representation, ensuring that information and concepts are accessible through different perceptual and cognitive channels;
2. Multiple Means of Action and Expression, providing alternative ways for learners to interact, build, and communicate their understanding;

3. Multiple Means of Engagement, sustaining motivation, self-regulation, and participation through flexible, meaningful experiences.

UDL thus represents a shift from accommodation to anticipatory design (Sgambelluri et al., 2025): rather than fixing barriers after they emerge, it invites educators and facilitators to prevent them by designing for variability from the outset. When applied to LSP, this framework encourages facilitators to reconsider the entire experience — not only the materials, but also the instructions, timing, communication, and facilitation style — in light of these three principles.

Table 1: Summarises how selected UDL checkpoints can be translated into the main phases and artefacts of the LSP process.

UDL principle/checkpoint	LSP phase	Inclusive adaptation	Artifact/support
Multiple Means of Representation: clarify language, symbols, and instructions	Challenge	Provide the challenge in oral, written, visual, and pictographic form	Visual challenge card; high-contrast slide; printed prompt
Multiple Means of Representation: support perception	Challenge/ Build	Use accessible fonts, colour contrast, tactile cues, and visible timing	High-contrast cards; tactile markers; phase timer
Multiple Means of Action and Expression: vary methods for response and navigation	Build	Allow participants to choose among standard LEGO®, DUPLO®, Technic connectors, accessibility-oriented tactile elements such as LEGO® Braille Bricks, or simplified kits.	Diversified brick kit; larger pieces; tactile supports
Multiple Means of Action and Expression: use multiple media for communication	Share	Permit oral narration, written notes, AAC-supported messages, voice recordings, gestures, or symbolic pointing	Model label; written card; AAC device; audio note
Multiple Means of Engagement: optimize individual choice and autonomy	Build/Share	Offer flexible timing, optional pauses, and alternative ways to participate without reducing contribution	Phase card; pause marker; personal reflection sheet
Multiple Means of Engagement: minimize threats and distractions	Share/Reflect	Make turn-taking, rules, and expectations visible and predictable	Ground-rule poster; visual agenda; turn-taking marker
Multiple Means of Engagement: foster collaboration and community	Reflect	Support collective meaning-making by focusing discussion on the model rather than on the person	Shared landscape; reflection board; facilitator prompts

Table 1. Mapping selected UDL principles/checkpoints to LSP phases, inclusive adaptations, and artefacts.

Representation concerns how information, tasks, and instructions are presented. In standard LSP workshops, the facilitator's oral delivery plays a dominant role: questions are posed verbally, often only once, and participants are expected to remember and interpret them while building. For some participants — especially those with auditory processing differences, linguistic barriers, or working-memory challenges — this can become a significant obstacle. Applying the UDL principle of representation means diversifying how information is presented, making the prompts multimodal and visually explicit.

In an exploratory adaptation of the method, we developed a set of visual challenge cards, each containing a pictogram and a concise, high-contrast textual formulation of the question. The

cards use accessible fonts and colour palettes compliant with guidelines for low-vision and colour-blind users (W3C, 2018).

Each card also indicates the expected time (for example, *5 minutes for building, 3 for sharing*), the current phase of the process (Challenge–Build–Share–Reflect), and a clear visual marker for breaks.

Figure 1 presents translated illustrative prototypes of visual supports designed for an accessible LSP session. The three examples refer to different moments of the process: ground rules, challenge presentation, and sharing. Their purpose is to make the sequence of activities more explicit, predictable, and accessible through plain language, pictorial cues, visible timing, and phase-specific visual markers.

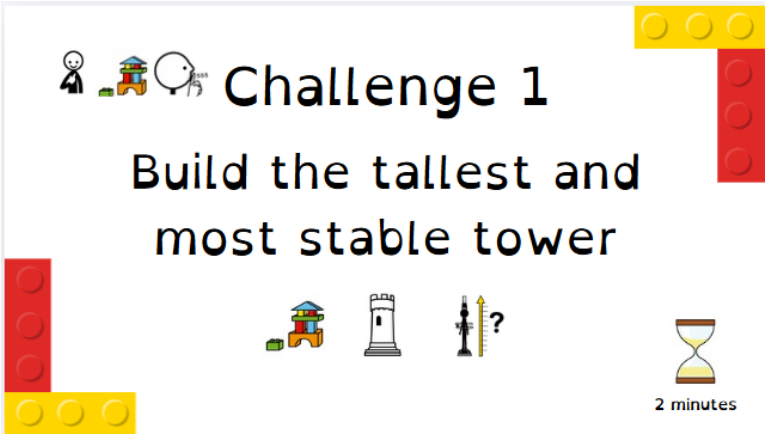

Figure 1. Translated illustrative prototypes of UDL-informed visual supports for an accessible LEGO® SERIOUS PLAY® session: (a) ground rules card; (b) challenge card with timing; (c) sharing card.

These prototypes show how accessibility can be embedded in the LSP process without changing its core structure. The visual supports do not replace facilitation, but complement it by externalising information that would otherwise remain temporary or exclusively oral.

This structure serves several functions. It externalises information that is typically transient; it allows participants to reread the prompt as needed, reducing dependence on short-term memory; and it anchors abstract concepts in concrete visual cues. Informal exploratory feedback suggested that these visual supports increased clarity, predictability, and confidence.

Moreover, for bilingual or neurodiverse participants, having a visual and textual version of the challenge made it easier to process instructions autonomously without relying on constant verbal repetition.

Representation also extends to the physical environment. The spatial layout of the table, the contrast of the background surface, and the availability of tactile elements (such as LEGO® Braille Bricks (LEGO Foundation, 2019) or raised icons) contribute to sensory accessibility. In sum, multimodal representation (CAST, 2018) transforms the LSP setting into an accessible semiotic environment — one in which information can be perceived, revisited, and interpreted through multiple channels.

The second UDL principle concerns how participants act upon and express their understanding.

In LSP, expression is inherently multimodal: participants communicate not only through speech but through their models — the physical artefacts that materialise thought. Nevertheless, several aspects of the process can be rethought to increase flexibility and equivalence among expressive modalities.

First, the building tools can be diversified. In our exploratory sessions, we used a hybrid kit that combined standard LEGO® bricks with DUPLO® elements—some of which are already included in official LSP kits—and additional connectors designed to reduce fine-motor strain. Participants could choose freely which pieces to use. This simple adjustment proved crucial for individuals with motor or coordination challenges, as well as for those who preferred working with larger or fewer elements.

Second, expression need not be exclusively oral. While storytelling remains central, participants were invited to complement or replace oral narration with alternative formats: a short written note, a voice recording, or a symbolic gesture referring to a model's element. These multiple options allow each participant to find an expressive mode aligned with their communication profile.

These adaptations are particularly relevant for diverse participant profiles. AAC users may participate by preparing short messages in advance, selecting symbols, pointing to elements of the model, or using speech-generating devices during the sharing phase. D/deaf participants may benefit from written prompts, captioned instructions, visual turn-taking signals, and, where available, sign language interpretation. Participants with low vision may require high-contrast materials, tactile markers, verbal descriptions of shared models, enlarged printed prompts, and careful spatial organisation of the table. Language-minority participants may benefit from plain-language prompts, bilingual keywords, pictograms, additional processing time, and the option to combine oral narration with written or visual explanations. In all these

cases, the goal is not to create separate pathways, but to design a common participatory environment in which different communicative resources are recognised as equivalent.

The facilitator's role also shifts in a UDL-informed approach. Rather than being positioned as the primary conduit for meaning-making, the facilitator becomes a designer of affordances (Gibson, 1979; Norman, 1988), ensuring that each participant can act, represent, and communicate autonomously.

Time management becomes flexible: challenges maintain clear timeboxes to sustain focus, but allow short extensions when needed. The emphasis shifts from efficiency to expressive completeness.

When everyone can express meaning through their own modality, equity of participation becomes a structural condition rather than an aspiration.

The third UDL principle focuses on engagement, addressing how participants connect emotionally and socially to the learning environment.

In LSP, engagement arises through play — but "serious play" is not free play; it is structured, intentional, and collective.

To ensure sustained engagement for all, facilitators must make the temporal, social, and sensory dimensions of the workshop explicit and predictable.

Building on this principle, we introduced visual phase markers — small signs placed on the table or projected on screen, indicating which stage of the process was active ("Challenge", "Build", "Share", "Reflect") and how long remained before the next pause.

This visual pacing served to reduce uncertainty and anxiety, particularly for participants who benefit from clear time boundaries or who experience stress in unstructured settings.

We also provided participants with a printed overview of the workshop's sequence, so that they could anticipate what would happen next and manage their own rhythm.

Engagement also depends on psychological safety (Edmondson, 1999), an aspect deeply aligned with LSP's existing rules: the principle that *models are discussed, not people*, and that there are *no right or wrong answers*.

Making these rules visible — on posters, cards, or slides — reinforces shared expectations and supports participants who rely on explicit social cues.

Finally, flexibility in group composition and pacing allows individuals to step back or request additional time without stigma. These measures transform the workshop from a high-pressure performance space into a safe environment for collaborative exploration.

The effect of these adjustments was immediately perceptible in field observations. Participants who were initially hesitant to speak found confidence in showing and describing their models. Interactions became more balanced; turns were clearer; and the collective negotiation of meaning — during the final "landscape" construction phase — was richer and more deliberate. While these outcomes were not systematically measured, they suggest that accessibility and engagement reinforce one another (Deci & Ryan, 2000; Meyer et al., 2014): when the environment is predictable, inclusive, and flexible, creativity and reflection flourish.

The same UDL-informed logic can also be extended to remote and hybrid LSP contexts, although with some methodological caution. In online settings, participants may build with personal LEGO® sets, alternative household materials, digital whiteboards, or shared photographs of their models. The facilitator can provide visual challenge cards in advance, use captioned video conferencing, offer written prompts in the chat, and make turn-taking rules

explicit through a shared agenda. In hybrid contexts, particular attention should be paid to equity between participants who are physically present and those who connect remotely: remote participants should have equal time to build, show, describe, and discuss their models, and their artefacts should be integrated into the collective reflection through photos, digital boards, or shared visual maps. However, remote LSP may also exacerbate inequalities when participants lack suitable materials, a stable internet connection, accessible devices, or private space. For this reason, remote and hybrid formats require careful planning, accessible digital supports, and low-cost alternatives to ensure that participation remains equitable.

What emerges from this UDL-informed reframing is not a new version of LEGO® SERIOUS PLAY®, but rather a methodological layer of accessibility that preserves its epistemological coherence while broadening its participatory reach. LSP does not need to be reinvented; it needs to be redesigned from the perspective of inclusion. By integrating multimodal representation, diversified action and expression, and structured engagement, facilitators can create workshops where *every participant can build, narrate, and reflect on equal grounds*.

This reframing also challenges a widespread misconception in both educational and organisational practice: that inclusion is an add-on, a matter of accommodations or special measures.

Instead, the UDL approach reveals that inclusion is a matter of design intelligence — of structuring environments, materials, and interactions in ways that anticipate human diversity as the baseline condition of learning.

From this perspective, LSP and UDL share a profound ethical and epistemological affinity: both focus on the importance of co-constructing meaning and on everyone's right to take part in it.

4. Conclusions

The exploration presented in this paper suggests that the dialogue between LEGO® SERIOUS PLAY® (LSP) and Universal Design for Learning (UDL) is more than a matter of methodological adjustment: it is an encounter between two epistemologies that share a deep humanistic orientation. Both are grounded in the belief that learning and meaning-making are collective, embodied, and relational acts (Bruner, 1996; Lakoff & Johnson, 1999), and that the design of environments — whether physical, cognitive, or social — determines who can participate in them. If traditional pedagogies often begin with content (Florian, 2015) and then adapt to learners, both LSP and UDL invert this logic: they begin with learners' variability and treat it as the generative core of the learning process.

Reframing LSP through UDL highlights a crucial distinction between *access* and *participation*.

Access refers to the removal of barriers that prevent individuals from entering a space; participation refers to the quality and equality of what happens once they are inside. In many learning environments — including creative or collaborative ones — accessibility is achieved at the physical or logistical level, but subtle hierarchies persist at the cognitive, linguistic, and affective levels.

An inclusive methodology must therefore address not only who is present, but whose voice counts in the co-construction of meaning.

In this sense, the UDL-informed adaptations described earlier — multimodal prompts, flexible timing, diversified expressive formats (CAST, 2018; Rose & Meyer, 2002), explicit social rules — are not merely technical solutions but acts of epistemic justice (Fricker, 2007).

They redistribute the conditions under which knowledge and ideas can be expressed, recognised, and valued.

They transform the LSP setting from a space of facilitated discussion into a microcosm of democracy, where the material act of building replaces the rhetorical act of persuasion as the foundation of dialogue.

This alignment between LSP and UDL also exposes a broader pedagogical horizon: that inclusion is not a secondary concern but a precondition for authentic learning. As Bruner (1996) reminded us, meaning is not discovered but negotiated within a cultural community.

If the community excludes certain forms of expression, it narrows the very range of meanings that can be produced.

Designing for inclusion, therefore, does not only benefit specific groups; it enriches the collective intelligence of the group as a whole.

From a methodological perspective, the reframing of LSP through UDL demonstrates that inclusivity can coexist with rigour and creativity.

The core process — *challenge, build, share, reflect* — remains unchanged; what changes is how the process is designed and communicated.

By introducing visual prompts, clear phase markers, and equivalent narrative options, facilitators create a *scaffolded openness*: a structure that supports autonomy while respecting individual differences. This design orientation has at least three implications for practice:

1. Facilitator training: Inclusion requires facilitators to think as designers. They must anticipate variability, plan multimodal prompts, manage flexible timing, and maintain psychological safety. Facilitator preparation should therefore include awareness of accessibility principles and neurodiversity.
2. Material design: The creation of accessible workshop materials — pictogram cards, simplified instruction sheets, adjustable kits combining LEGO® and DUPLO® elements — can make LSP sessions reproducible in educational and community settings with diverse participants.
3. Reflective documentation: Future studies could integrate qualitative tools such as participant reflections, photos of models, or post-session interviews to document how accessibility influences engagement and learning outcomes.

These directions do not transform LSP into a "method for inclusion," but into a method designed inclusively — a subtle yet crucial distinction. The goal is not to produce a new variant but to infuse the existing methodology with a design logic that honours diversity as a resource.

The intersection of LSP and UDL invites a broader conceptual reflection: inclusion is not only a question of access or engagement, but also of narrative space.

Building and narration are not separate phases but intertwined acts of sense-making: the hands construct what the words will later articulate, and words in turn reshape the model through reflection and dialogue.

This circular dynamic realises, in practice, what inclusive education aspires to achieve in theory (Ainscow & Miles, 2008) — the recognition of multiple literacies and intelligences (Gardner, 1983; Cope & Kalantzis, 2000) as coequal modes of knowing.

Such a perspective also challenges deficit-based views of diversity. Rather than compensating for limitations, it assumes that every learner brings unique semiotic

resources — gestures, metaphors, rhythms, and material imaginations — that can contribute to collective meaning.

The facilitator's task is to design an environment where these resources can surface and interact.

In this sense, inclusion becomes not a matter of ethics alone but of epistemological completeness: only by embracing diverse forms of knowing (Nussbaum, 2011) can a group grasp the full complexity of the world it seeks to represent.

The exploratory work presented here opens several avenues for further development.

Future research should evaluate the proposed UDL-informed LSP framework through a structured mixed-methods design. First, equity of voice could be examined by analysing the distribution of speaking turns, the duration of contributions, and the number of participants who actively share their models. Second, participation balance could be assessed through observational grids documenting turn-taking, use of alternative expressive formats, requests for clarification, and involvement in the collective reflection phase. Third, anxiety reduction could be explored through short pre- and post-session self-report scales, participant reflections, and facilitator field notes focused on perceived predictability, psychological safety, and comfort in sharing. Additional qualitative data could include photographs of models, participant narratives, post-session interviews, and reflective journals. Such an evaluation plan would enable a shift from conceptual and exploratory claims to systematic evidence on the inclusive potential of UDL-informed LSP.

Beyond this empirical agenda, a further direction involves the creation of an open-source accessibility toolkit for facilitators: printable challenge cards, inclusive design checklists, and recommendations for material selection. Such resources would democratise the use of LSP and make it viable in public education, vocational training, and special education. Finally, future work could explore the integration of digital supports — for example, augmented reality (Lee & Hsu, 2021) or voice-guided prompts — that maintain the tactile essence of LSP while expanding accessibility for remote or hybrid settings.

At the same time, the proposal should be understood as a first step in conceptual and design terms. Its effectiveness must be tested across different educational, organisational, and community settings, with attention to facilitator workload, material costs, scalability, and the accessibility of both physical and digital supports. Future studies should therefore examine not only whether UDL-informed LSP increases participation, but also under what conditions it can be implemented sustainably.

In conclusion, this paper has argued that LSP and UDL share a common ethical and epistemic foundation: both view learning as a process of co-construction of meaning among diverse participants. Reframing LSP through UDL does not alter its identity; it amplifies its promise — to make visible the invisible processes of thought, to give voice to every participant, and to transform the act of building into an act of collective understanding.

By integrating principles of representation, action, and engagement into facilitation practice, LSP can evolve from a creative methodology for teams to an inclusive pedagogy of participation, capable of bridging educational, organisational, and social domains. Ultimately, designing for learning means designing for humanity. And in the language of LSP, this means that when *everyone's hands are building*, everyone's voice is already part of the story.

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