



# From Recipient to Co-Author: Empowerment and Textual Adaptation with Adults with Cognitive Disabilities. A Participatory Approach to Linguistic Simplification

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## Abstract

*To achieve the full inclusion of people with cognitive, intellectual, and sensory disabilities, a shift beyond traditional models of linguistic simplification is required. It is imperative to adopt participatory research methods that treat textual adaptation as a co-creation process, thereby giving voice and decision-making power to the final recipients. This study has a twofold objective: first, to evaluate the efficacy of a textual co-design approach, and second, to measure the impact of specific visual, syntactic, and pragmatic interventions on the comprehension of complex texts and on the participants' perceived self-efficacy. A qualitative study was conducted through a cycle of focus groups with 8 participants (4 men and 4 women; aged 36-60). Adopting a methodology inspired by ethnography and utilizing MAXQDA for data analysis, textual materials were co-developed and analyzed. The main findings highlight two key aspects. First, the active role of participants transcended simple feedback, establishing a genuine co-authorship role by directly influencing textual layout, lexis, and syntax. Second, the didactic interventions demonstrated measurable efficacy, with a significant increase in the ability to interpret figurative language and a corresponding growth in self-efficacy. The conclusions emphasize the indispensable value of including target recipients as co-researchers.*

**Keywords:** *co-authorship; easy-to-understand; cognitive accessibility; intellectual disability; self-efficacy; participatory research*

## 1. Introduction

Beyond physical and sensory barriers, the true challenge of accessibility lies in the cognitive domain, where access is not merely a matter of availability but of the effort required for comprehension (cf. Levis 2018). In response to this challenge, initial efforts led to the development of rule-based simplification guidelines, most notably the European "Easy-to-Read" (E2R) standards. While foundational, these approaches initially often used to treat text adaptation as a form of translation. However, robust empirical evidence now challenges the efficacy of such standards when applied in isolation. A pivotal study by Buell et al. (2019) demonstrated that simplified text as a "stand-alone artefact" is insufficient, validating the paradigm shift towards participatory research. This evolution, grounded in the "Nothing About Us Without Us" principle, reframes participants as active experts rather than passive recipients (Nind et al., 2021).

The crucial finding from Buell et al. (2019) is that comprehension improves only when simplified text is combined with mediation. However, their standardized, non-reciprocal mediation induced passivity, which can be interpreted as a group-level manifestation of the low self-efficacy and fear of 'being wrong' observed in our thematic analysis through codes like Difficulty in Answering and the Use of Hedging Particles. In contrast, this study implements an active, dialogic, and reciprocal mediation. Through Co-design of text and graphics, Positive Interpersonal Interactions catalyzed by humor, and consistent Acknowledgement of Contributions, participants overcome initial reticence and become empowered co-authors. This transforms mediation from a purely cognitive exercise into a holistic, affective process, where an emotionally secure environment, reflected in the theme of Engagement, is the prerequisite for authentic cognitive participation.

### 1.1 Research Gaps and Objectives

Despite this shift towards participatory methods, significant lacunae remain in the empirical literature. First, there is a lack of empirical data (cf. Perego 2021) that systematically documents the co-authorial role of participants with cognitive disabilities. Second, further evaluation is needed to determine which specific simplification interventions—pragmatic, auditory, visual, or syntactic—are most effective (cf. Trevisan & Brumen, 2023). This requires gathering data on the real-time metacognitive reflections of



addressees as a text is being co-designed. Such a methodology allows for an informed, dynamic integration of expert-led strategies with the lived experience and perspectives of users during the creation process. Therefore, this study aims to: (1) empirically document the nature and impact of the co-authorial role assumed by participants during textual adaptation processes, and (2) evaluate the efficacy of specific interventions on improving figurative language comprehension and promoting perceived self-efficacy.

## **2. Methodology**

### **2.1. Researcher Positionality and Role**

In this study, the researcher adopted a dual role as both a facilitator grounded in an ethnographic approach and an analyst of the emergent data. The inherent tension between fostering an empowering co-design environment and maintaining analytical distance was managed through a continuous process of reflexivity. A detailed research logbook was used to critically document the researcher's decisions and potential influence on group dynamics. To systematize this practice further, ad-hoc codes such as guided comprehension were created to flag instances where facilitator interventions might have unintentionally influenced participant decision-making. The quantitative impact of these moments is reflected in the data tables below concerning participant engagement and the assimilation of interpretive rules to make sense of figurative language.

### **2.2 Participants**

This study employed a qualitative approach centered on a cycle of focus group consisting of eight participants (N=8), comprising four men and four women with an age range of 36 to 60. The participants were recruited from a specialized day center and all live with cognitive and sensory disabilities. The primary inclusion criterion was their status as intended primary recipients of simplified textual materials.

### **2.3. Materials and Procedure**

Grounded in a constructivist paradigm, this study utilized an Experience-Based Co-Design (EBCD) methodology conducted through a series of interactive, ethnography-inspired workshops (Hewitt et al., 2025). The procedure centered on focus groups designed to identify key experiential "touchpoints"—moments of confusion, comprehension, or emotional response arising from participants' interaction with textual materials. These moments then became the direct catalysts for the co-creation process. The design of the initial materials, as well as the interactive adaptations, was guided by the dual principles of established Italian Easy-to-Understand Language guidelines (Capotosto, 2023; Sciumbata, 2022; Trevisan & Brumen, 2023) and Universal Design for Learning (UDL). Specifically, in line with UDL's emphasis on *multiple means of expression*, participation was explicitly differentiated to accommodate the diverse abilities and preferences of the group. A core principle of the methodology was ensuring that each participant's contributions directly reflected their individual capabilities and preferences. This flexibility was paramount, as participation was not expected to be uniform. The entire process was supported by active facilitation aimed at mitigating communication barriers, a strategy confirmed as crucial for successful implementation with this participant group (Lunsky et al., 2017). The facilitator's role, therefore, was not to demand a specific type of output, but to encourage and enable any form of engagement—be it a verbal suggestion, a written reformulation, or an illustrative drawing—ensuring that all interventions were voluntary, respected, and an authentic expression of each participant's unique insights. For instance, while several participants chose to write their textual reformulations on a shared whiteboard, another consistently preferred to express their thoughts and interpretations through drawing. Similarly, some participants voluntarily read passages aloud, while others chose not to.

#### **2.3.1. Data Collection and Analysis**

A multi-modal data corpus was compiled for this study, consisting of: (a) complete audio recordings of all workshop sessions; (b) photographs of participant-generated content, including written reformulations and whiteboard drawings; and (c) a detailed researcher's logbook capturing direct quotations and observational notes both on interactions within the participant group and on the



outcomes of co-adaptation. This qualitative corpus was systematically analyzed in MAXQDA. The analytical approach was thematic analysis, which is consistent with established methods for identifying user-generated priorities in co-design research within the field of disability studies (Hewitt et al., 2025). In addition to the thematic analysis, a specific linguistic analysis of the participants' spontaneous utterances was conducted. A recurring pattern was observed wherein their speech followed a cumulative progression, characterized by short, juxtaposed main clauses that often represented fragmented thoughts. Furthermore, their utterances frequently featured ellipses, where key contextual information was omitted. Conversely, instances of more complex syntactic structures, such as cataphora or the use of reflexive verbs, were notably rare. To ensure the full semantic intent of these elliptical statements was accurately captured for coding, it was often necessary to include missing information within square brackets [ ] as shown in Figure 1. This supplementary information was systematically added based on a triangulation of data from the different sources available: the contextual cues from the audio recordings, observational notes from the researcher's logbook, and visual evidence from photographs of the whiteboard.

### 3. Results

The analysis of participant interactions reveals a dynamic and recursive process of co-creation, where participants progressively transitioned from passive recipients to active co-authors. This transformation is not merely quantifiable by code frequencies but is substantiated by the qualitative nature of their contributions, which directly shaped the final adapted materials.

#### 3.1. The Emergence of the Co-Authorial Role

The findings from this study reveal a complex interplay between the co-creative process, the development of self-efficacy, and the mechanisms of textual comprehension. The data indicates that participant engagement is not merely a consequence of accessible materials but is, in fact, the engine of a virtuous and iterative feedback loop, as shown in Figure 1. The availability of co-designed texts fostered a greater willingness to participate, which in turn yielded more detailed feedback. This heightened motivation is encapsulated in one participant's explicit statement: "*Leggo [materiale semplificato] con più voglia capi.*" (Translation: "I read [simplified material] with greater satisfaction, you know"). This co-design process, however, was a developmental journey from low to higher self-efficacy. The initial sessions were characterized by participant caution and a reliance on external validation. This was strategically managed by the researcher's active facilitation, which began by deflecting traditional expert authority with statements like, "Quello che io penso non è importante" (Translation: "What I think is not important"). A safe and productive space for negotiation was then established by consistently affirming participants' opinions, clarifying complex terms, using phatic talk to maintain conversational momentum, and synthesizing disparate contributions into a cohesive whole. The success of this approach in fostering an asserted sense of self-efficacy is best exemplified by one participant's transformative statement. During the analysis of an ad-hoc created literary simplified text *Rumore e Assenza* (i.e. Noise and Absence), participants were tasked with interpreting the central concept of 'voice' as a medium for expressing one's feelings. When discussing the mentioned born-accessible (Orero 2020) text *Rumore e Assenza* she rejected the idea of singing in isolation and proclaimed with newfound confidence her desire to be publicly heard: "*Io [canterei] fuori.*" (Translation: "I would sing outside"). Other participants responded not with simple descriptions but added a layer of meaning resulting from personal reflections and personal considerations. The following quotations display pronounced metacognitive and metareflective capabilities: "*La mia voce sono le mie emozioni.*" (Translation: "My voice is my emotions.") Within this empowering framework, participants demonstrated sophisticated strategies for interpreting complex texts. One key mechanism was empathetic appropriation, particularly when engaging with canonical literature. When analyzing Dante's line "*io non so ben ridir com'i v'intrai,*" where the poet metaphorically frames his entry into sin as being lost in a dark wood, a participant bypassed a literal exegesis. Instead, he performed a profound act of cognitive appropriation by reformulating the line as follows: "*come ho fatto a trovarmi in questa situazione?*" (Translation: "how did I end up in this situation?") A second comprehension mechanism involved metaphorical definition. "*Il rumore significa le emozioni che c'hai dentro, ma non riesci a farle vede'. L'assenza è che non hai emozioni.*" (Translation: "Noise means the emotions you have inside, but you can't manage to show them. Absence is when you have no emotions.")



### 3.1.1 Usability and Differentiated Needs

The direct evidence on usability elements gathered during the workshops allowed for the identification of differentiated communicative needs. For instance, participants with low vision expressed a clear preference for all-caps text, a finding that challenges a broad set of standard accessibility guidelines (cf. Inclusion Europe): *"è meglio tutto scritto grande."* (Translation: "It's better all written in all-caps.") Interestingly, these same participants derived significant benefit from the inclusion of photographs, as it provided an alternative and more immediate pathway to textual comprehension, bypassing their perceived low capability to access visual cues when reading. The participants' contributions thus provided critical, user-specific data that informs a more nuanced and effective approach to accessible design. As a result, differing communicative needs profiles emerged.

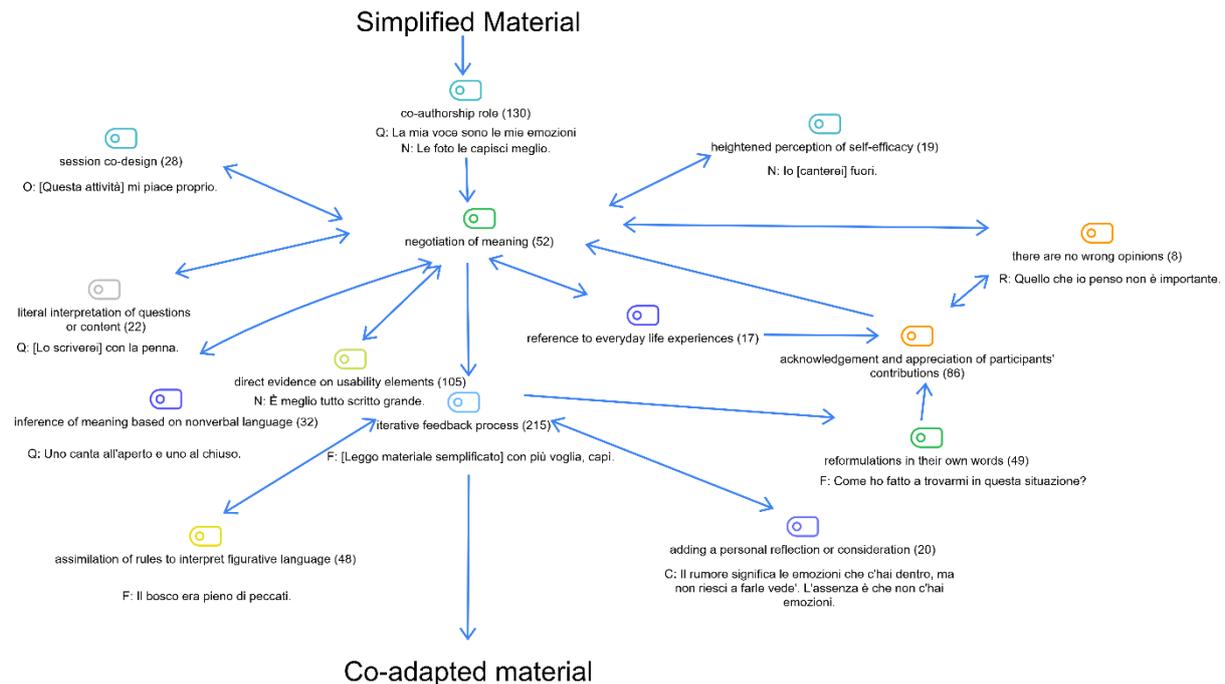


Fig. 1. Co-Creation Process Flow Chart And Connected Codes In Grounded Thematic Analysis

### 3.2. Efficacy of Interventions and Skill Progression

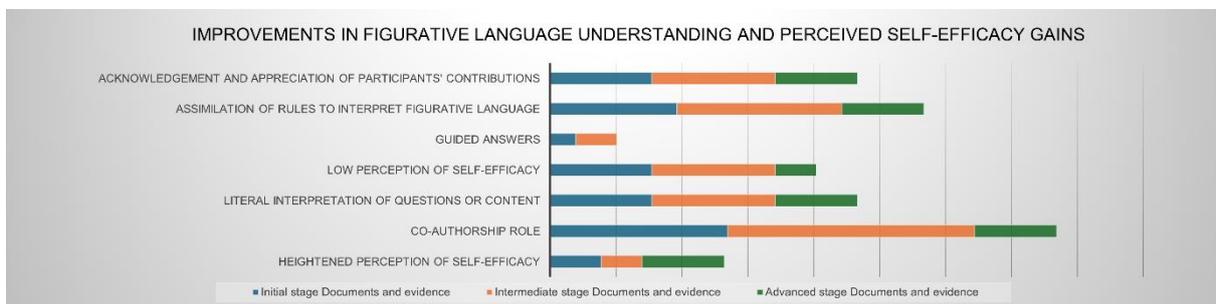
The longitudinal analysis of the focus group sessions reveals a clear developmental trajectory among participants, characterized by a significant shift from initial apprehension to active co-authorship. This progression is quantitatively evidenced by the changing frequency of key indicators across the initial, intermediate, and final phases of the project.

The initial phase of the workshops was clearly delineated by communication patterns rooted in low self-efficacy. The quantitative data establish this baseline, showing peak frequencies during this first phase for literal interpretation of questions and content (N=13), moments indicating low self-efficacy (N=10), and the use of hedging particles (N=15). This apprehension manifested qualitatively through both behavioral hesitation and linguistic hedging. Direct questions from the facilitator were often met with prolonged silence, while verbal contributions were systematically softened with phrases such as "diciamo..." (let's say...) or "che ne so..." (what do I know...). As interpreted in observational memos, these particles functioned as a "linguistic shield"—a strategy enabling participants to voice an idea while simultaneously disassociating from it, thereby mitigating the perceived risk of being incorrect or unrelatable. This initial apprehension was progressively overcome, as evidenced by the quantitative increase in the co-authorship role, which rose from 12 occurrences in the initial phase to 45 in the intermediate phase and culminated at 73 in the final phase. This finding extends the theoretical work on inclusive research (Nind et al., 2021) by providing empirical evidence of how these principles manifest in a linguistic adaptation context. The participants' interventions evolved beyond simple corrective feedback into acts of meaning-making. This can be critically analyzed using the framework of Buell et al. (2024), which suggests that linguistic adaptations are a form of stance-taking, wherein



participants assert their right to interpret and shape how information is presented, thereby claiming their voice. Moreover, the data reveals a virtuous cycle: as participants' ability to interpret figurative language increased—climbing from just 2 occurrences in the initial phase to 30 in the final phase—so did their self-efficacy gains, which rose from a single instance (N=1) in the initial phase to 13 in the final phase. This parallel growth is consistent with Bandura's (1997) theory, which posits that mastery experiences are a primary source of self-efficacy. In this context, each successful interpretation of a complex text acted as a mastery experience, which in turn fostered the confidence needed for more active and assertive engagement. This supports the arguments of Säuberli et al. (2024) for the crucial role of user-based assessments, as the study at hand demonstrates that the qualitative experience of empowerment is intrinsically linked to measurable improvements in engagement and consequently in successful comprehension. An instance of successful production of figurative language is shown in Figure 1 in “il bosco era pieno di peccati”, “The wood was full of sins” — thereby highlighting not only assimilation of rules to interpret figurative language but overcoming this stage by directly employing it in speech production.

**Table 1. Longitudinal Quantitative Analysis On Perceived Self-Efficacy And Skill Progression**



#### 4. Discussion

The findings of this study not only confirm the efficacy of a participatory, co-design approach but also offer deeper insights into the nature of co-authorship, the mechanisms of comprehension, and the nuanced role of accessibility tools. The discussion that follows interprets these results, connecting them to the established theoretical literature and exploring their broader implications.

##### 4.1. Beyond Feedback: The Participant as Co-Author and "Stance-Taker"

The outlined data provides evidence that effective simplification for this audience is a process of deep, collaborative adaptation, not mere linguistic translation. In contrast to the automated models detailed by Saggion (2017), which focus primarily on syntactic rules, our findings show that participants' contributions on layout, imagery, and personal relevance were crucial for creating accessible texts. The co-creative process allowed for a holistic adaptation that addressed the text as a communicative, visual, and emotional artifact—a level of nuance that rule-based systems without user feedback may hardly achieve. Two significant and unexpected findings emerged from the participants' metareflections. First, regarding visual aids, an *a priori* initial hypothesis based on observation of previous group interactions that photographs might be interpreted too deterministically and make the addressees think that the text is going to be specifically about the depicted person was discarded and proven incorrect. Instead, participants consistently expressed preference for photographs as a thematic anchor to situate a text at the beginning of a discussion, which then enabled them to engage with more abstract visuals, i.e. pictograms or illustrations later on in the text. In other words, the photograph was useful to situate the text thematically, providing grounds for later information processing, thereby outlining the interpretive scene and serving a function of cognitive offloading. Second, a nuanced distinction appeared in terminology preference. A significant finding from the participants' metareflections is that the terminology used to describe the adapted texts was not arbitrary but was directly linked to the perceived efficacy of the accessibility interventions. The preference for the label "easy to understand" was most pronounced among participants who experienced a specific adaptation as a decisive breakthrough. For instance, participants with low vision—for whom the strategic use of situational photographs drastically bridged their accessibility gap—did not merely perceive the text as improved; they perceived a significant boost in their own decoding capabilities. For this group, the task was no longer a simplified challenge but perceived as



an inherently accessible one, and the term 'easy to understand' accurately reflected this new, empowered experience of successful comprehension. Conversely, participants who still found the task cognitively demanding, even with the adaptations, tended to favor the term 'simplified language'. This choice acknowledges that while the material was improved, a degree of underlying complexity in the reading task remained for them. This indicates that the very language used to describe accessibility is highly subjective and intrinsically tied to an individual's personal experience of cognitive load and mastery. Furthermore, a direct positive correlation was observed between the affective tone of the topics discussed and the frequency of positive interpersonal interactions within the group. Sessions dedicated to personally relevant or humorous themes saw a marked increase in supportive interactions (N=15), compared to sessions focused on more abstract linguistic concepts (N=3). This suggests that content selection is not just a pedagogical choice but also a critical factor in fostering a collaborative environment conducive to co-creation and above all a positive literacy improving experience.

#### ***4.2. Implications and Future Directions for Education and Technology***

The findings of this study have direct and pressing implications for inclusive linguistic practices, primarily in the design of texts for people with intellectual disabilities. The demonstrated effectiveness of the co-design model suggests that educational and support institutions must move beyond creating static materials for this group and instead prioritize adaptable frameworks that involve end-users as expert co-designers. This study's central contribution is the empirical demonstration of a co-design process that functions as a form of supersemiotic text transformation (cf. Bernabé Caro 2020), i.e. the target text involves more semiotic channels than the source text. This concept moves beyond mere linguistic simplification to encompass the translation of a complete communicative act across multiple semiotic systems. Such an approach is not only compatible with but is a prerequisite for a true implementation of the Universal Design for Learning (UDL) framework, as it inherently manages multiple means of representation to achieve genuine accessibility. The true benefit of adopting this supersemiotic and participatory model lies in its capacity to expand the scope of content deemed suitable for adaptation. It provides a robust framework for moving beyond purely informational texts to address more cognitively and emotionally complex subjects, such as humour and emotional literacy. The findings on the successful co-creation of meaning around nuanced themes demonstrate that this collaborative approach creates a space where sensitive topics can be explored without resorting to oversimplification or avoidance. Furthermore, this study makes a significant contribution to the theoretical discourse on 'Easy-to-Understand Language' itself. It challenges a purely text-centric, rule-based definition by demonstrating that 'ease of understanding' is not an inherent property of a text, but rather an outcome of a dynamic interaction between the user, the material, and their perceived self-efficacy. The findings suggest that a truly accessible text is one that not only reduces cognitive load and improves comprehensibility (cf. Levis 2018) but ideally also enhances a user's motivation and sense of competence. The participants' distinction between 'simplified' (acknowledging a remaining challenge) and 'easy to understand' (reflecting a successful mastery experience) highlights this crucial point. This more holistic understanding opens up innovative avenues for future research. The insights on visual aids, for example, suggest that generative AI tools could be integrated into co-design workshops to create bespoke photographic images for thematic anchoring, directly addressing both cognitive load and user engagement leading ultimately to interesting points of departure in research in the field of Special Educational Needs. Finally, as the principles of co-creation are media-agnostic, applying this participatory approach to dynamic digital media like video blogs (Fajardo et al., 2022) represents the next frontier for enhancing motivation and creating truly inclusive communication.

#### ***4.3. Limitations of the Study***

The findings of this study should be considered in light of certain limitations. First, the small sample size (N=8), while not permitting statistical generalization, was intentionally chosen to facilitate a deep qualitative analysis of the co-creation process. Second, the research was conducted within the specific context of a single day center, meaning the findings may be influenced by the particular culture and pre-existing relationships within this group. Finally, a third limitation pertains to the specificity of diagnostic data for the participant cohort. Detailed diagnostic information was often unavailable, as participants themselves were not always aware of their specific diagnoses. Their self-reported history frequently consisted of general statements, such as having received special educational support in school. While this reflects the lived experience of many individuals, it means that the findings cannot



be correlated with specific diagnostic categories and should be interpreted as relevant to adults with a broader range of intellectual and cognitive disabilities. Despite these limitations, this study provides a rich, detailed framework for participatory textual adaptation.

## 5. Conclusion

In conclusion, this study provides empirical validation for a participatory co-design model in textual adaptation. The findings demonstrate that involving adults with cognitive disabilities as co-authors is not only feasible but essential for creating truly accessible materials, fostering measurable gains in both linguistic comprehension and perceived self-efficacy. Beyond these practical outcomes, the research compels a more profound theoretical re-evaluation: it highlights the need to shift the underlying metaphors that govern our approach to this work. We argue for moving away from the metaphor of 'simplification as translation'—which implicitly frames participants as passive recipients of a diluted message—towards a more powerful and accurate metaphor of 'adaptation as collaborative dialogue'. This conceptual shift is critical, as metaphors fundamentally shape our understanding of a subject. Adopting the metaphor of dialogue allows us to update our perception of the agency, functioning, and expression of people with intellectual disabilities, moving beyond a deficit-based lens to recognize them as active agents with unique and valid ways of creating and negotiating meaning. Ultimately, this research provides a replicable model for future work and underscores the imperative to fully embrace a shift from designing for people with disabilities to designing with them, acknowledging their invaluable expertise in their own communicative needs.

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