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IDEA

Toolkit for Adult Educators

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INTRODUCTION

0.1 INTRODUCTION

Building inclusive knowledge spaces for all

This Toolkit emerges from a shared conviction: education, creativity, and innovation must be accessible and transformative for all learners, including adults with disabilities. Too often, digital environments and learning spaces such as FabLabs and makerspaces are designed with assumptions that exclude or marginalize individuals with diverse abilities. The IDEA Project - Inclusive Design Empowerment Action was developed to address this gap: to offer an inclusive educational model where creativity, co-design, and digital fabrication become tools for empowerment, professional growth, and social participation.

The IDEA Project takes inclusion as a starting point, not a final adjustment. Inclusion here is not simply about providing physical access but about enabling equitable participation from the outset, embedding accessibility and diversity as guiding values. This means recognizing and valuing differences as essential resources for learning, innovation, and community building. The adults with disabilities who participate are not passive recipients of assistance, but active contributors, co-designers, makers, and innovators.

At the heart of this initiative is the toolkit you are holding: a structured collection of educational resources, practical methodologies, tools, and reflective guidance designed for educators, facilitators, and professionals working at the intersection of adult education, digital creativity, and inclusion. In this context, a toolkit is far more than a manual. It is a flexible, adaptable framework that provides educators with structured pathways, tested practices, templates, and operational methods to guide inclusive educational processes. It offers step-by-step guidance but also invites adaptation, contextualization, and iteration, recognizing that no two learning environments, or learner groups, are the same.

The Toolkit is designed to accompany educators as they guide participants through key phases of an inclusive co-design journey: from problem setting and user experience research, to co-design principles and idea generation, through prototyping and validation, and culminating in the pitch as a narrative and evaluative tool. Each module aligns with key moments in this journey and can stand alone or be combined into a full curriculum, depending on the needs and contexts of the educator and their learners.

Throughout, the emphasis is on participation: working *with* people with disabilities as equals, recognizing their lived experiences as expertise, and fostering their agency and self-determination. This approach is fully aligned with European priorities and frameworks such as the European Pillar of Social Rights, the UN Convention on the Rights of Persons with Disabilities, and the DigComp, EntreComp, and LifeComp competence frameworks, which emphasize digital skills, creativity, entrepreneurship, and lifelong learning as essential to social inclusion.

Educators are central to this process: not merely as transmitters of knowledge but as facilitators of collective processes, guardians of participation quality, and designers of relationally safe and accessible environments. The modules guide educators in cultivating the key competences needed to lead inclusive processes: active listening, empathy, cultural responsiveness, and adaptive facilitation. The text encourages them to reflect on their own role, to pay attention to communication and relational dynamics, and to manage diversity as a creative asset.
An important feature of this Toolkit is its iterative and participatory character. Inclusion is not treated as a checkbox to be completed but as a continuous commitment to revisiting, rethinking, and refining methods and approaches. The educator is encouraged to test, learn from feedback, adapt, and evolve together with their learners.

Moreover, this work sits within a wider social context: as digital fabrication technologies spread into schools, libraries, community centers, and vocational training spaces, it becomes crucial to ask who is included and who is left out of these revolutions in learning and making. This toolkit invites educators and facilitators to actively dismantle barriers, challenge stereotypes, and cultivate environments where everyone, regardless of ability, can experiment, create, and succeed.

The **IDEA Project** aims to achieve two intertwined objectives:

- To **improve the competences of adult educators** in delivering creative, digital-oriented, inclusive educational paths
- To **empower adults with disabilities to become makers**, **designers**, and **entrepreneurs** capable of navigating and shaping today's complex and digital world as active and valued participants.

This introduction frames the nine modules that follow as components of a coherent and replicable methodology. The modules are not prescriptive; they are meant to be used flexibly, enabling educators to tailor their approach to their own contexts, whether in FabLabs, educational institutions, NGOs, or community organizations.

Finally, this Toolkit is an invitation: an invitation to rethink what it means to teach, learn, design, and collaborate inclusively. It is an invitation to shift from an assistive perspective to one of co-creation, shared agency, and collective innovation. It recognizes that building inclusive learning spaces is not an endpoint but a process: a journey of reflection, adaptation, and transformation that must be renewed with each group, each context, each project.

By engaging with these materials, educators, facilitators, makers, and communities take part in this ongoing journey. Together, they can help build a future where digital creativity and learning environments truly serve everyone's future, where diversity is not just included but embraced as a source of innovation, relevance, and social impact.

Learning outcomes table

The following table summarizes the cumulative **learning outcomes** identified across the nine modules of this toolkit. It is designed as a reference for educators, facilitators, and project partners to understand the competencies that participants are expected to develop during their engagement with the IDEA methodology.

Each learning outcome reflects the project's overarching aim: to empower both educators and adult learners with disabilities through inclusive, creative, and digital-oriented educational paths.

The outcomes are grouped thematically, aligned with the four core competence areas defined in the IDEA project (creativity, digital skills, social skills, and professional development) ensuring consistency with the contract and supporting the implementation of a replicable European model for inclusive education.

This table helps clarify not only what competencies are targeted but also where they are acquired in the curriculum, providing a roadmap for both trainers and learners to navigate their journey through the modules.

#	Learning Outcome Title	Description	Where Acquired	Thematic Group
1	Creative Problem Solving	Ability to generate innovative solutions through creative processes such as brainstorming and ideation workshops.	03 Idea Creation, 09 Inclusive Kit	Creativity
2	Digital Fabrication Skills	Competence in using digital tools such as 3D printers, laser cutters, and CAD software.	04 Prototyping and Validation, 09 Inclusive Kit	Digital Skills
3	Empathy and User-Centered Design	Ability to understand and prioritize user needs, particularly those of people with disabilities, through tools like empathy mapping and shadowing.	01 Problem Setting - UX Research, 09 Inclusive Kit	Social Skills
4	Co-Design Facilitation	Skills to organize and moderate inclusive, participatory design sessions, balancing group dynamics.	02 Co-Design Principles, 08 Management Model	Social Skills
5	Inclusive Communication	Ability to communicate clearly, respectfully, and accessibly across varied abilities and contexts.	06 Inclusive Communication	Social Skills
6	Stakeholder Mapping and Engagement	Competence in identifying, analyzing, and involving key stakeholders in design and educational processes.	01 Problem Setting - UX Research, 08 Management Model	Professional Development
7	Prototyping and Iteration	Ability to create and test physical or conceptual prototypes, incorporating user feedback iteratively.	04 Prototyping and Validation, 09 Inclusive Kit	Digital Skills
8	Pitching and Narrative Prototyping	Ability to present ideas clearly and persuasively to stakeholders using structured narrative tools.	07 The Pitch as a Tool for Inclusive Prototyping t	Professional Development

#	Learning Outcome Title	Description	Where Acquired	Thematic Group
9	Reflective Practice	Capacity to critically assess one's facilitation style, biases, and project methods to improve inclusivity.	02 Co-Design Principles, 05 Inclusive Thinking	Social Skills
10	Teamwork and Collaboration	Ability to work effectively in diverse, multidisciplinary teams, fostering shared ownership.	02 Co-Design Principles, 09 Inclusive Kit	Social Skills
11	Accessibility Auditing	Skills to assess and improve accessibility of spaces, materials, and products.	06 Inclusive Communication, 09 Inclusive Kit	Professional Development
12	Problem-solving Thinking	Ability to transform ideas into viable, sustainable solutions or ventures, emphasizing inclusion.	03 Idea Creation, 09 Inclusive Kit	Professional Development
13	Documentation for Inclusion	Ability to document processes in ways that are accessible, multimodal, and recognize diversity.	02 Co-Design Principles, 08 Management Model	Professional Development
14	Visual and Digital Communication	Skills to communicate ideas visually and digitally, using infographics, storyboards, multimedia.	07 The Pitch, 09 Inclusive Kit	Digital Skills
15	Lifelong Learning and Self-Directed Development	Awareness of personal learning needs and capacity to develop independently in creative, digital and social domains.	05 Inclusive Thinking, 09 Inclusive Kit	Professional Development

01

PROBLEM SETTING AND UX RESEARCH IN DISABILITY DESIGN

01

UNDERSTANDING NEEDS AND CONTEXTS

This module introduces the initial phase of inclusive design: problem setting and user experience (UX) research. It provides tools and methodologies for educators and designers to explore user contexts, uncover needs, and identify barriers, laying the foundation for effective and inclusive solutions.

The objective of this module is to develop participants' ability to understand and prioritize user needs, particularly those of people with disabilities, through user-centered research methods. Participants will learn how to apply qualitative and quantitative tools such as interviews, observation, shadowing, and empathy mapping to define design problems inclusively and ethically.

1.1 INTRODUCTION TO INCLUSIVE DESIGN AND PROBLEM SETTING

Inclusive design and problem setting

This module introduces the initial phase of inclusive design: problem definition and user experience (UX) research. It provides educators and designers with tools and methodologies to explore user contexts, identify their needs, and recognize barriers, thereby laying the foundation for truly effective and inclusive solutions. The goal is to develop participants' ability to understand and prioritize user needs—particularly those of people with disabilities—through user-centered research methods. Participants will learn how to apply qualitative and quantitative tools, including interviews, observation, shadowing, and empathy mapping, to define design problems in an inclusive and ethical way.

In the realm of inclusive design, addressing disability as a design domain means asking different questions from the very beginning, compared to traditional design. It's not just about adapting an existing product or service to make it accessible, but about starting from a genuine understanding of the context and the daily challenges experienced by those with motor, sensory, cognitive, or communicative limitations.

The essential starting point is **problem setting**: formulating the problem in an informed and structured way, based on evidence gathered directly from real users' experiences, avoiding arbitrary assumptions or standardized solutions.

Defining a design problem requires the ability to clearly identify who the user is, what their needs are, and why these needs arise. When it comes to disability, this task becomes even more critical, as the needs are not always obvious nor easily mapped to traditional models. While empathy and perspective-taking are helpful, fully understanding the daily life of a person with a disability remains complex. The nuances, challenges, and needs involved are often deeply personal and sometimes invisible to those who don't live them directly.

Designers must recognize that every person with a disability has a unique combination of experiences, resources, remaining abilities, and environments in which they live or work. The environment significantly affects the usability of any product or service, making every project necessarily situated and contextualized.

1.2 UX Research: understanding the experiences of users with disabilities

UX research is the beating heart of a user-centered design process.
Its goal is not only to gather information that can improve the product or user interaction but also to deeply understand the lived experiences, emotions, expectations, and failures users encounter when engaging with products and services.

When designing for disability, UX research becomes an essential tool to give voice to those often overlooked by dominant narratives, which tend to simplify, infantilize, or even ignore the experiences of people with disabilities.

RESEARCH AS A CONTINUOUS PROCESS IN DESIGN THINKING

This research activity can be applied throughout the entire design thinking cycle. In the initial phase, it helps build empathy, carry out immersive activities, and gather crucial insights for accurately defining the problem.

Later, it supports ideation, prototyping, and testing, ensuring that every proposed solution is validated against the user's real needs.

Finally, in the product release and monitoring phase, UX research continues to provide added value through ongoing service improvements and dynamic adaptation to emerging user needs.

1.3 The importance of integrating qualitative and quantitative methods

In inclusive and user-centered design, research is not a formality but a substantial and strategic activity. Understanding who we are designing for, how they live, what obstacles they face, and what strategies they use to overcome them is the only way to generate relevant, effective, and respectful solutions. In this context, qualitative and quantitative methods are complementary tools that, when used thoughtfully, provide a rich and deep understanding of users—especially when designing for people with disabilities.

Qualitative research is based on **listening, observing, and engaging in dialogue**. It doesn't just collect data; it seeks to understand the meaning behind experiences. Through interviews, contextual observation, and focus groups, hidden or subtle dimensions emerge that are crucial to understanding users' true needs and desires. This approach is particularly suited to disability contexts, where individual uniqueness, varying conditions, and invisible barriers require sensitivity and nuance. However, due to its depth and contextual nature, qualitative research tends to yield results that are less generalizable at scale.

Complementing this, **quantitative research** focuses on **measurement**, **replicability**, and **statistical analysis**. Surveys, structured questionnaires, and tests allow researchers to gather data from larger samples, identify trends, and validate hypotheses. These tools are valuable for gaining a broad view or confirming insights from the qualitative phase. However, this strength in abstraction can sometimes flatten out unique experiences—especially those of individuals at the margins, such as those with complex or atypical disabilities.

Rather than viewing these methods as mutually exclusive, inclusive design requires a critical ability to alternate and integrate them. Qualitative methods bring empathy and insights; quantitative methods bring validation and scope. It's the balance between them that ensures robust, inclusive research capable of guiding meaningful design decisions.

The choice of methods—or more often, a mix of methods—should always be guided by the research goals, available time and resources, and most importantly, the nature of the user base. Sometimes the best approach is direct dialogue and co-design; in other cases, aggregated data or heuristic models may be needed. Every methodology carries with it a worldview and an ethical responsibility.

1.4 Qualitative methods: interviews, observation, and focus groups

Among the most effective research methods, user interviews stand out for their ability to collect personal stories, detailed opinions, and emotional perceptions. When well conducted, these conversations can reveal deep aspects of experience that would not surface through quantitative techniques. When working with people with disabilities, it is crucial to use respectful language, ensure accessible communication, and engage in active listening so that the person feels central to the process.

Another highly effective method is contextual observation, also known as shadowing. This involves following the user during their daily activities, discreetly observing their behavior, interactions with the environment, difficulties, and compensatory strategies. This allows for the discovery of challenges the user might not articulate but that significantly impact autonomy.

Focus groups, although requiring careful management of group dynamics, provide opportunities to explore diverse opinions and foster discussion among participants. In disability contexts, it is vital to ensure equal opportunities for expression, possibly with communication aids or expert facilitators who support the conversation without influencing it. The richness of focus groups lies in the diversity of perspectives and in surfacing shared solutions or alternative viewpoints often overlooked in conventional design.

1.5 Quantitative methods: surveys, questionnaires, and usability tests

Although not always easy to incorporate into a co-design-oriented toolkit, surveys and questionnaires allow for data collection from large samples, producing statistically significant results that can serve as baselines for on-site research. Their effectiveness depends heavily on how well they are designed—questions must be clear, accessible, and unambiguous. It's also essential to ensure format inclusivity, offering alternatives for people with visual, cognitive, or motor disabilities.

Product development is a nonlinear, iterative process. At the end of the Design Thinking path, prototyping and testing activities are carried out. Usability testing becomes one of the most powerful tools to identify issues in the interaction between user and product—whether physical, digital, or service-based. By observing how someone uses a product, one can assess whether research insights were implemented and identify further obstacles, inefficiencies, or opportunities. It's important that test participants reflect the diversity of the intended audience. If the product was custom-developed for one individual based on shadowing, that same person should conduct the usability test to obtain realistic and useful results.

1.6 Heuristic evaluation and persona creation

In the absence of available users, heuristic evaluation is a common alternative where experts (usually designers) assess a system using established usability principles. This quick, low-cost method should complement—not replace—user research. No matter how skilled, an expert cannot replicate the lived experience of someone with a disability.

Typically, UX Laws and Nielsen's 10 usability heuristics are used: visibility of system status, match between system and real world, user control and freedom, consistency and standards, error prevention, recognition rather than recall, flexibility and efficiency, aesthetic and minimalist design, error recovery, and help/documentation. Though widely applied to digital interfaces, they can be adapted for physical products as well.

Personas—fictional but data-based representations of user types—are often created to synthesize research findings. In inclusive design, personas must authentically reflect the needs and characteristics of people with disabilities. These profiles help design teams stay aligned with user goals. Yet in some cases, especially when shifting from 'Design for All' to 'Design for Each,' it can be harder to generalize without excluding specific needs. Still, these insights can often extend across domains, re-entering universal design territory.

1.7 Synthetic personas and application contexts

Synthetic Personas—artificially generated user profiles—are especially useful when direct access to a user sample is not possible. Unlike traditional personas, which derive from interviews and field research, synthetic personas are created using AI-based systems. These tools analyze large datasets and detect patterns to simulate realistic, coherent user profiles.

Their effectiveness relies on the quality of the input prompts, which must guide the system to produce believable and relevant traits. While synthetic personas can't fully replace real users, they are valuable for exploratory or early-stage projects, especially when time or access is limited.

1.8 Integrating methods and ethical considerations

Each method has strengths and limitations. Qualitative approaches are key for deep insights but are less generalizable. Quantitative methods offer replicable, measurable results but may neglect human nuance and exclude marginalized groups. Thus, integrating various methods based on goals and context is essential.

In disability-related UX research, **ethics** must be front and center. Every user interaction must be based on respect, transparency, and privacy. Informed consent must be more than a checkbox—it should be a genuine moment of communication. Valuing users' experiential knowledge means treating their input as vital, not secondary.

1.9 Participation, listening, and shifting paradigms in Inclusive Design

Inclusive UX research must go beyond observing people with disabilities as passive users. They should be actively involved as co-researchers, co-designers, or experiential consultants. Their **direct participation** reveals knowledge inaccessible to external observers and prevents common design errors.

To enable this involvement, we must question the dominant notion of 'normality' that shapes traditional design. The assumption of a 'typical' fully able user excludes many realities. Inclusive design sees diversity not as an exception, but as the default.

This perspective demands real-world testing of accessible products with users who have sensory, motor, or cognitive disabilities. Valid solutions emerge not from rules or algorithms but from listening, observation, and collaboration.

UX research is therefore not just a technical task, but a political and cultural act. It's a way to make design more human, welcoming, and just.

1.10 Language, emotion, and culture: three dimensions of Inclusivity

Inclusive experiences require attention to not only functionality but also communication, emotion, and cultural context. Language matters: overly technical terms or complex structures can exclude. Simple, respectful language lowers barriers and enhances clarity.

Emotional experience is critical. Disability involves not only functional limitations but also **emotional and social dynamics**. Poorly designed products can trigger frustration or reinforce exclusion.

UX research must therefore use **empathetic methods**—like shadowing and qualitative interviews—to surface emotional responses.

Lastly, inclusivity cannot ignore culture. Notions of accessibility, dignity, and independence vary by region.

What works in one context may offend in another. UX research must be **culturally sensitive,** avoiding one-size-fits-all models and embracing localized understanding.

1.11 Designing for all, evolving with all: the enduring value of inclusive design

Inclusive design often benefits everyone—not just its initial target audience. This is the principle of universal design: creating products usable by as many people as possible, without needing special adaptations.

A prime example is the **single-lever faucet**, originally designed to assist war veterans with motor impairments. Today, its convenience has made it a mainstream standard. This illustrates how designing for disability can drive innovation and improve general user experience.

But inclusivity doesn't stop at launch—it requires ongoing attention, feedback, and adaptation. UX research must accompany the product lifecycle, capturing shifts in user needs, technologies, and contexts. Feedback channels must remain open, accessible, and responsive.

Conclusion: design as an ethical and political choice

Designing for and with disability is a complex challenge—and a powerful opportunity to make design more just, human, and intelligent. It calls for a mindset shift, a willingness to listen, and openness to being challenged. It also demands methodological rigor, research knowledge, synthesis skills, and above all, ethical clarity.

Every design choice is a political act: it can include or exclude, reinforce fairness or perpetuate injustice. Design is never neutral, and it must be conscious.

Centering disability in problem setting and UX research doesn't just create more accessible products—it builds a **culture of respect**, bridges diverse worlds, and celebrates human experience in all its forms.

02 CO-DESIGN

02

METHODS, VALUES AND PRACTICES FOR INCLUSIVE DESIGN IN EDUCATIONAL, SOCIAL AND INNOVATION CONTEXTS

This contribution offers a theoretical and practical guide to Co-Design, understood as a collaborative process grounded in inclusion, attentive listening, and shared transformation. Aimed at educators, designers, facilitators, and social practitioners, it addresses those seeking to activate participatory processes within diverse groups. By presenting principles, tools, operational phases, and concrete examples, it supports the structuring of accessible, sustainable experiences capable of generating tangible social impact.

This module aims to equip participants with the knowledge and facilitation skills to organize and moderate inclusive, participatory design sessions. It emphasizes the principles, values, and methods of co-design, encouraging collaborative processes that promote shared ownership, distributed knowledge, and transformative learning.

2.1 THE TRANSFORMATIVE NATURE OF CO-DESIGN

Co-Design: definitions, contexts, and methodological distinctions

Principles, definitions, and foundations of inclusive Co-Design in social and professional contexts. An essential introduction to understand the origins, the distinctions from other approaches, and the theoretical framework underpinning the entire document.

2.1.1 Definitions, methodological distinctions, and fields of application

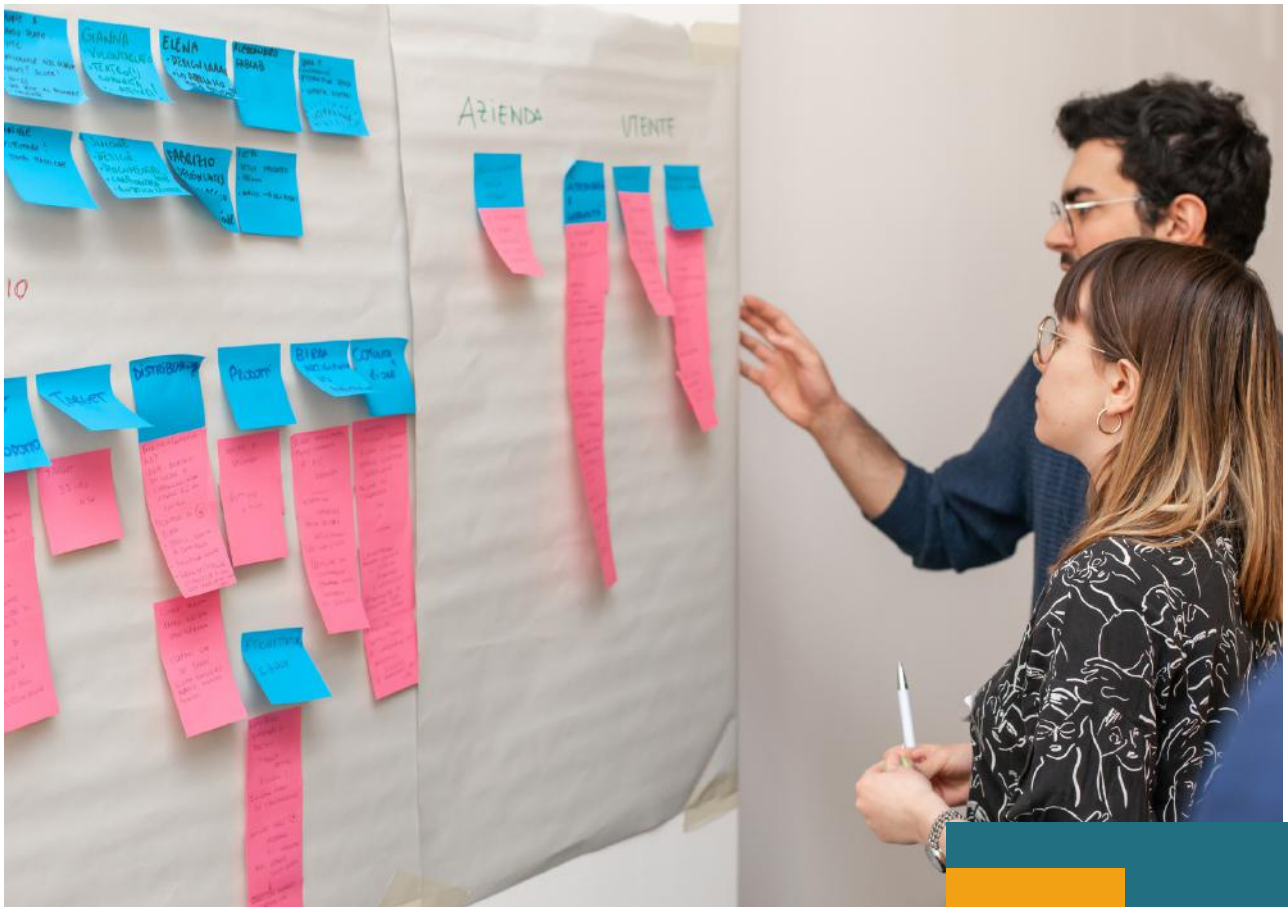
The term *Co-Design* refers to a collaborative design practice in which end users, stakeholders, and designers actively participate in the process of ideating, developing, and evaluating solutions. Unlike traditional design, which is typically based on a hierarchical relationship between designer and user, Co-Design grants all actors an **equal role** in generating project-related knowledge.

Co-Design differs from *co-innovation* and *co-production* in its emphasis on the generative and ideational phase. While co-innovation involves integrating multiple expertises to create novel solutions—often in industrial or entrepreneurial contexts—and co-production refers to the joint delivery of services (typically in public or socio-health sectors), Co-Design focuses on shared design from the very first stages, structuring an open, reflective, and iterative process.

From these methodological distinctions, it becomes important to explore how Co-Design is implemented in concrete terms, particularly in emerging fields of participatory design—most notably in social innovation contexts and within FabLabs, where it has found fertile ground for development and consolidation.

Over the past twenty years, Co-Design has played a crucial role in **social innovation processes**—those aimed at addressing collective needs through systemic, inclusive, and sustainable solutions. In this context, Co-Design enables the valorization of citizens' and communities' situated knowledge, translating their lived experiences into design drivers.

FabLabs, as open and decentralized ecosystems of digital fabrication and making, provide a privileged setting for Co-Design practices. Within them, participatory prototyping pathways can be activated, where technical skills intertwine with personal experiences, needs, and aspirations. Co-Design in FabLabs also helps break down barriers to design participation, fostering mutual learning and individual empowerment.



2.1.2 Co-design in the IDEA project and its theoretical roots

In this perspective, the European project IDEA adopts **Co-design** as a strategic tool to promote **active inclusion and the empowerment** of persons with disabilities, particularly through lab-based practices in **FabLab** contexts.

Within the IDEA project, co-design is understood as a means to activate inclusive and enabling processes. Involving persons with disabilities as co-designers means recognising their active role not only as beneficiaries but as agents of change. This approach aims to move beyond assistance-based or paternalistic models, fostering autonomy and new forms of agency.

Through co-design, the expertise of persons with disabilities is integrated with that of professionals and facilitators, giving rise to transformative practices. In this sense, FabLabs become spaces of empowerment, where devices, services, and practices are developed through equal and generative collaboration.

The foundations of this approach are not improvised: they are rooted in a long-standing theoretical and methodological tradition that has contributed to redefining the social role of design.

Co-design has its origins in the participatory design practices developed in Scandinavian countries starting in the 1970s, in response to the need to democratise decision-making processes in the fields of work and public services. Over time, this approach evolved, incorporating principles from social design, critical education, and theories of social justice.

Among the main theoretical references are *Liz Sanders and Pieter Jan Stappers*, advocates of design as a collaborative landscape; *Ezio Manzini*, who emphasised the potential of design in social innovation processes; and more recent authors such as K*ate McKercher*, who has systematised principles and mindsets for ethical and inclusive co-design.

Practices developed by Hackability are fully aligned with this framework, contributing to the evolution of co-design as a concrete tool for empowerment and social transformation.

2.2 FOUNDATIONAL APPROACHES AND VALUES OF CO-DESIGN

Guiding principles for the inclusive quality of design processes

The values that make co-design an inclusive and transformative process: participation, shared power, and care. This section offers a clear framework for creating relational and cultural conditions that enable truly shared design practices.

2.2.1 Participation, power, and distributed knowledge

In Co-Design, participation is not merely a matter of presence, but of agency: each individual involved must have the real capacity to influence design decisions. The principle of "**sharing power**" implies a redefinition of traditional hierarchies, promoting contexts in which experiential knowledge and technical expertise are given equal weight. This means rethinking the role of designers, no longer as sole experts, but as facilitators of collective processes.

Creating the conditions for meaningful participation requires time, attentive listening, and appropriate tools. These include: accessible environments, clear and comprehensible language, flexible formats, and devices that ensure everyone's right to speak and negotiate.

This drive toward authentic involvement also manifests through the recognition and valorisation of multiple forms of knowledge—a second pillar of inclusive co-design.
In inclusive Co-Design, **knowledge is distributed** across many participants and expressed through different forms: lived experience, professional expertise, and situated knowledge.
The combination of these types of knowledge leads to solutions that are better adapted to real contexts, as they respond not only to functional needs but also to users' values, emotions, and cultural backgrounds.
This approach is grounded in the synthesis of diverse perspectives: it is in the encounter between those who experience conditions of fragility and those with design or technical expertise that the most relevant, innovative, and sustainable ideas emerge.

However, even relevant content cannot take form without trust and supportive relational contexts. Another cornerstone of co-design, therefore, concerns the quality of relationships.

2.2.2 Relationships, care, and cooperation

Co-Design is, above all, a **relational practice**. For relationships to be fertile, it is essential to create environments in which people feel welcomed, heard, and safe. Safety must be understood broadly: physical, emotional, and cultural. Design hospitality refers to the ability to create workspaces where participants can express themselves without fear of judgment or exclusion.

Trust is built through process transparency, the recognition of every contribution, and coherence between declared goals and actual practices. In this sense, care becomes a structural—not accessory—element: to design is also to take care of others and of the conditions under which collaboration takes place.

Relational quality alone is not sufficient if it is not supported by a shared attitude: a design mindset aligned with the values of the process.
Co-Design demands a deep shift in posture from all participants. It requires moving away from a competitive or solution-driven approach toward a dialogical stance—open to **uncertainty, error, and negotiation**.

The most effective Co-Design practices are those in which collaborative mindsets are cultivated: curiosity, active listening, reflexivity, and a willingness to revise one's own assumptions.

Fostering a culture of cooperation also means establishing rituals, tools, and methods that facilitate shared meaning-making, conflict navigation, and the recognition of individual talents within the collective.

2.3 THE CO-DESIGN PROCESS: PHASES AND STRUCTURE

From context building to transformative learning

From the initial setting to collective learning, all phases of the Co-Design process are explained here with clarity and depth. This section is useful for those who need to plan, facilitate, or assess a complete co-design process.

2.3.1 From preparation to the shared emergence of the problem

Every effective Co-Design process begins with a preliminary phase focused on intentionally **building the conditions necessary for genuine participation**. This includes identifying the actors to involve, analysing their motivations, ensuring the accessibility of physical and symbolic spaces, and defining an implicit or explicit collaboration agreement.

This is where the ground **rules** are established: timeframes, languages, modes of interaction, and roles. Creating the right conditions does not mean simply organising a meeting, but setting up an environment that welcomes vulnerability, fosters trust, and legitimises all forms of knowledge.

Once enabling conditions have been put in place, the group needs to move through a space of **relational and cognitive immersion** that strengthens its cohesion and orients its course.

When the group work is activated, it is essential to enter a phase of shared immersion—into both the context and interpersonal relationships. This phase helps build a sense of belonging, mutual familiarity, and the identification of shared values.

Alignment should not be understood as uniformity, but as the emergence of differences and their recognition as valuable resources. Activities such as storytelling, visualisation, emotional or narrative mapping help to generate an initial pool of distributed knowledge, which then nourishes the subsequent phases.

This **relational and cognitive groundwork** enables the group to approach the next, perhaps most delicate, phase with greater awareness: the shared definition of the design problem.

The **problem-setting phase** is one of the most critical in Co-Design, as it defines the very object of the design process. Unlike traditional approaches, where the problem is often defined a priori, here the problem is co-constructed through the listening of lived experiences, situated analysis, and negotiation of diverse perspectives.

The concept of "*problem*" itself may be reframed—not as an obstacle to be removed, but as a **tension to be understood and re-elaborated.** Techniques such as reframing, generative questioning, and participatory interviews are particularly useful for bringing out implicit needs, unspoken desires, and latent systemic dimensions.

2.3.2 Ideation, prototyping, and transformative learning

Once a shared interpretative framework has been established, the group can begin generating solutions through guided ideation practices and structured co-design.

In this phase, the group explores **possible solutions** using techniques that foster creative divergence followed by critical convergence. Structured brainstorming, sketching sessions, rapid prototyping, and simulations are key tools for transforming insights into plausible design configurations.

The value of this phase lies in the group's ability to integrate a wide range of contributions, **blending skills, perspectives, and imaginaries.** The facilitator plays a crucial role in maintaining an open yet focused space, preventing the richness of ideas from becoming scattered or fragmented.

The **generated solutions** must now be **tested**: this marks the beginning of the experimentation and iteration phase, a practical foundation for inclusive quality.

Prototyping in Co-Design is not merely a technical step, but an epistemic act: through making, participants think, learn, and negotiate. Prototypes—whether objects, services, spaces, or experiences—hold **communicative and transformative value**. They are tested with and by the participants, generating new evidence, validations, and counterpoints.

Iteration—the continuous revisiting and refinement of solutions—is a structural component: each cycle strengthens the inclusive quality of the project and increases its relevance for the intended users.

Implementing solutions does not signify the end of the process, but rather the beginning of a new phase: one of collective responsibility and transformative learning. Implementation, far from being a final moment, represents a new transformative threshold. Putting co-designed solutions into practice entails responsibility, adaptation to real-world constraints, monitoring of outcomes, and attention to long-term sustainability.

Co-Design always includes a reflective dimension: what has been learned throughout the process must be made explicit, shared, and valued. Learning does not only concern the project outputs, but also the growth of participants, the strengthening of relationships, and the evolution of collective practices.

2.4 METHODS AND TOOLS FOR INCLUSIVE CO-DESIGN

Techniques, supports, and environments for truly accessible design

Techniques and tools that enable concrete, accessible, and multimodal participation. Intended for facilitators, educators, makers, and designers seeking operational approaches to inclusion.

2.4.1 Generative techniques and accessible facilitation

Generative techniques are designed to support the **expression of ideas, desires, and visions by all participants**, regardless of their linguistic or technical skills. In an inclusive context, such techniques must be able to valorise lived experience, overcoming barriers that limit access to design discourse.

Narrative practices—such as storytelling, photo-voice, visual diaries, or the depiction of future scenarios—are powerful tools for activating imagination and making latent needs visible. These practices help build empathy among participants and root ideation in the tangible realities of daily life. Narrative, understood as a mediation tool, allows meanings and perspectives to surface that would otherwise remain implicit or marginal.

Alongside these techniques, the success of inclusive co-design also depends on the quality of the **facilitation tools**—both analog and digital. Facilitation is a crucial skill in Co-Design and requires tools appropriate to the context, the composition of the group, and the goals of the session. On the analog side, physical materials are used to encourage direct interaction: thematic cards, printed canvases, construction blocks, magnetic boards, evocative objects. These tools stimulate visual and tactile expression, making the process more accessible and inclusive.

In the digital domain, collaborative platforms such as Miro, Jamboard, FigJam, or video conferencing tools with integrated shared whiteboards enable remote co-design, expanding participation. However, digital tools demand careful attention to accessibility: simplified interfaces, compatibility with screen readers, appropriate navigation speeds, and technical support must all be considered during planning.

Yet the quality of the tools alone is not enough if the content is not communicated accessibly. It is therefore essential to carefully consider the forms through which knowledge is represented.

2.4.2 Representation and prototyping environments

To ensure **participatory equity**, it is essential that Co-Design content be understandable and accessible to all. Accessible representation is not limited to linguistic simplification; it involves the pluralisation of communicative modes: text, image, sound, gesture.

Among the most effective practices are the use of Easy-to-Read language for written texts; augmentative and alternative communication (AAC) for individuals with cognitive or communication disabilities; visual concept maps; subtitled or narrated videos; sign language interpretation or automatic real-time subtitles. Integrating these tools into facilitation is not an exception—it is a prerequisite for genuine engagement in co-design processes.

Work on accessibility becomes even more meaningful when Co-Design takes place in environments such as FabLabs, where experimentation takes concrete and collective form.

The FabLab context introduces specific operational features into inclusive Co-Design. Maker environments offer the possibility of quickly moving from idea to prototype, making design hypotheses tangible and comprehensible—even for those less familiar with abstract representation.

Tools such as **3D printers**, **laser cutters**, **CNC machine**s, and **microcontrollers** (Arduino, Raspberry Pi) can be used accessibly, provided they are accompanied by appropriate mediation and tutoring activities. Furthermore, the use of modular materials and open-source tools allows for product adaptability to individual needs.

An effective approach in FabLabs combines hands-on activities with moments of guided reflection, creating fast-paced cycles of ideation, making, and revision. Inclusivity here depends on the lab's ability to welcome different bodies and minds—adapting spaces, timeframes, interfaces, and roles to enable everyone to contribute meaningfully.

2.5 THE ROLE OF THE FACILITATOR IN HETEROGENEOUS GROUPS

Navigating relational complexity to enable participation

Facilitation as an intentional and reflective practice to support inclusivity and balance within groups. A resource for those leading complex processes and seeking to develop operational and critical awareness.

2.5.1 Managing diversity and guiding the participatory process

In inclusive co-design contexts, participants' **diversity** is a **valuable resource**—but it also brings relational **complexities** that must be handled with skill. The facilitator is responsible for managing the multiplicity of roles, experiences, languages, cognitive rhythms, and abilities present within the group, promoting dynamics of mutual respect and the appreciation of differences.

Managing diversity is not merely about tolerance; it requires constant attention to balancing the dynamics between those who are more familiar with design processes and those who may find themselves in a more marginal position. This balance is achieved through techniques such as turn-taking, reformulating contributions, and using visual or physical tools to support everyone's expression.

The ability to manage such relational complexity is strengthened when accompanied by a conscious assumption of one's role—not as neutral, but as generative.
The **facilitator** is not a neutral moderator, but a **responsible actor** who guides, mediates, listens, and intervenes intentionally. They take on the role of guardian of the process and of participatory quality, working to prevent dysfunctional asymmetries or the dominance of certain voices over others.

As a design guide, the facilitator does not provide solutions, but instead poses questions, activates collective imagination, and helps orient the key steps of the journey. Their role is to sustain the group's energy and sense of direction, while remaining open to unpredictability and the co-evolution of the project.

To carry out a truly transformative action, the facilitator must also cultivate a **reflective, adaptive, and context-aware posture.**

2.5.2 Situated reflection and rebalancing strategies

Facilitation is by definition a reflective activity. Every action taken by the facilitator is based on observation, listening, and the ability to interpret the specific context in which they operate. A situated approach implies that each group, space, and theme requires a tailored mode of intervention—never applied mechanically.

Reflective practices include tools such as logbooks, debriefing sessions, peer feedback, and formative evaluation of the process. Through these devices, the facilitator sharpens their awareness and progressively improves their effectiveness, while maintaining a critical and dialogical stance.

However, reflection must also translate into political action: the facilitator is responsible for **recognising and rebalancing power dynamics** that inevitably traverse any group.

Every group is shaped by implicit power dynamics: professional status, cultural capital, communication skills, social affiliations. The facilitator must make these visible and actively intervene to ensure they do not become obstacles to genuine co-design.

Rebalancing strategies include redistributing speaking turns, using tools that reduce performance pressure, valuing non-verbal contributions, and continually redefining spaces for agency. In some cases, it may be useful to introduce the figure of a "voice buddy"—someone who supports participants who find it more difficult to speak or interact.
A conscious facilitator does not simply manage the group: they act to **transform it into a temporary community of learning and shared transformation**.

2.6 DOCUMENTING THE CO-DESIGN PROCESS

Tracing, sharing, and giving value to the shared experience

How to document a Co-Design process in an inclusive way. Useful for those seeking to produce high-quality materials that also capture intangible and transformative outcomes.

2.6.1 Sharing, learning, engaging

Documentation is a fundamental component of Co-Design, as it makes it possible to trace the design process, account for decisions made, and value the contributions of each participant. To be accessible, documentation must take multiple forms: verbal, visual, audio-based, performative, and material.

Verbal tools may include session minutes, logbooks, narrative summaries, or selective transcriptions. Visual documentation can include concept maps, photographs, sketches, infographics, or storyboards. Multimodal formats are particularly effective in heterogeneous contexts: short videos, audio recordings, and tactile or interactive representations can engage a wide range of cognitive and sensory profiles.
It is essential to choose tools that align with the group's languages and abilities, without standardising formats at the expense of clarity and participation.

When **participants** become **protagonists** in the documentation process, it is no longer just a technical function—it becomes an **educational and political practice**.
Documentation is not a neutral or merely functional activity: it is a political and pedagogical act. When participants are actively involved in producing documentation —through collective writing, visual feedback, or autobiographical narratives—a dynamic of recognition and subjective empowerment is created.

In this sense, documentation becomes a lever for **empowerment:** it allows people to reinterpret their own experience, reclaim the skills they employed, and consolidate learning that is often informal or tacit. It also makes the process transparent and replicable, generating knowledge that can benefit other groups and contexts.

The impact of documentation is further strengthened by its ability to generate public value through examples, good practices, and moments of collective restitution.

2.6.2 Impact, good practices, and intangible value

Numerous experiences have shown that well-crafted documentation can significantly amplify the impact of a Co-Design process. Some projects, for instance, establish from the outset a system for collecting both raw and refined materials: workshop photographs, participant testimonials, need maps, prototype datasheets, and interviews.

In other international contexts—such as community labs or service design studios operating in the public sector—open-access toolkits are used that include documentation templates adaptable to participants' profiles.
One good practice is the **public restitution**: a moment in which the results of the process are shared with an external audience through exhibitions, narrative pitches, performances, or interactive displays—making the entire process visible, not just the final outputs.

Alongside these visible products, there exists an often-overlooked yet essential invisible heritage: the **relational and transformative outcomes.**
Not all outcomes of a Co-Design process are tangible or immediately measurable. Often, the most significant results are relational, emotional, and transformative: a sense of belonging, increased self-confidence, the adoption of new collaborative postures, and the transformation of perspectives and representations.

Making these intangible outcomes visible requires methodological **sensitivity** and appropriate **narrative tools.** Collected testimonials, observable changes in language, and the social connections built among participants become traces of situated and profound learning.

Documenting the invisible ultimately means honouring the complexity of the Co-Design process and the human value it generates.

2.7 SPECIFICITIES OF CO-DESIGN WITH PERSONS WITH DISABILITIES

Inclusion as a design practice

What it means to design with and not for: accessibility, listening, and radical adaptation of processes. A valuable resource for those working with vulnerable groups who aim to structure truly inclusive pathways.

2.7.1 Intersectional inclusion and the design of participation

The authentic inclusion of persons with disabilities in Co-design processes requires an intersectional approach—one capable of capturing the complexity of individual identities and the interweaving of disability, age, gender, cultural background, education level, and socio-economic status. Design needs cannot be generalised by diagnostic category, but must be interpreted through each person's situated uniqueness.
The **personalisation** of tools is not optional; it is a foundational principle. It means designing environments, materials, methodologies, and rhythms that adapt to the individual—rather than expecting the person to adapt to the context. This implies ongoing flexibility, active listening, and an understanding of accessibility as a universal design value, not an exception.

Personalisation, however, cannot be separated from the **removal of systemic barriers** that continue to hinder full and equal participation.
Barriers to participation for persons with disabilities may be physical (stairs, inaccessible furnishings), sensory (lack of alternative visual or auditory cues), cognitive (complexity of materials), communicative (specialist or unclear language), or cultural (prejudices, infantilisation, symbolic marginalisation).

On the other hand, **powerful facilitators** exist: welcoming and adaptable environments, support figures, assistive tools, extended timeframes, visual and tactile mediation, simplified language. Even more critical is the attitude of other participants: empathy, listening, suspension of judgment, and a willingness to renegotiate the process are all decisive elements. In educational and design contexts, it is essential to abandon the notion of "normality" as a benchmark and instead adopt a logic of design for diversity.

Ensuring access is not enough: it is equally necessary to actively **construct the conditions for intentional and meaningful participation.**

2.7.2 Proven models and operational practices

The participation of persons with disabilities cannot be assumed or imposed—it must be intentionally designed. Designing participation means critically addressing multiple dimensions, such as:

- **Time:** expanded duration, breaks, flexible work rhythms;
- **Language:** use of augmentative communication, Easy-to-Read formats, visualisation, symbols, gestures.
- **Space:** physical and perceptual accessibility, environmental comfort, presence of appropriate stimuli;

It also means recognising that participation can take on multiple forms: active presence, participant observation, deferred contributions, asynchronous feedback. Adaptation should not be treated as an exception, but rather as a core competency of both the group and the facilitation process.

Real-world experiences show that this approach is not only feasible, but capable of generating value—provided it is supported by methodological rigour, relational care, and structured practices.

Numerous field experiences confirm the practical possibility of implementing inclusive and accessible Co-Design, centred on collaboration among persons with disabilities, designers, makers, and caregivers. Labs carried out in different territorial contexts have demonstrated the effectiveness of a method based on:

- The **shared definition of needs** (Need Mapping)
- **Iterative co-design** through tangible prototypes
- The **creation of mixed teams**, where value emerges from the hybridisation of competencies.

Original tools have also been developed—such as the *Team Map* and the *Charter of Mutual Expectations*—to facilitate trust-building and relational clarity, alongside practices for multimodal documentation of the process, which help make visible the micro-transformations and relational learning that occur.

These experiences demonstrate that Co-Design with persons with disabilities, when conducted with rigour, openness, and care, is not only achievable but can become a permanent laboratory for ethical, technical, and social innovation.

03 IDEA CREATION

03

INCLUSIVE METHODS, TOOLS AND STRATEGIES FOR TRANSFORMING INSIGHTS INTO DESIGN CONCEPTS

This contribution explores how to generate meaningful design ideas starting from needs, tensions, and insights that emerge in Co-Design contexts. Through creative methods, visual techniques and participatory tools, it guides the reader through the phases of ideation leading to the formalisation of design concepts. Intended for designers, educators and facilitators, the text offers concrete practices to stimulate creativity within heterogeneous groups and to value the diversity of contributions.

The learning objective of this module is to cultivate participants' creative problem-solving skills in inclusive contexts. It provides strategies for generating, refining, and selecting innovative design ideas using accessible and participatory ideation techniques that value diversity and inclusion.

3.1 FROM LISTENING TO IDEATION

The role and meaning of ideation in inclusive Co-Design processes

How ideation transforms needs, insights and lived experiences into design opportunities. An overview of the strategic value of ideas in Co-Design.

3.1.1 The role of ideation in Co-Design processes

Within a Co-Design process, the **ideation phase** represents a crucial step: it is the moment in which needs, narratives, and insights emerging from previous phases are transformed into plausible design directions.

Ideation is not an isolated creative exercise but a profoundly **relational activity**, rooted in situated knowledge produced collectively.

From an inclusive perspective, to ideate means to value the contributions of every participant, by creating the conditions for each person to propose, combine, develop, and evaluate ideas—even through non-conventional expressive forms. Ideation is therefore both a **design practice and a form of operational democracy.**

3.1.2 Continuity with previous phases: immersion and problem setting

The quality of ideation depends directly on the depth and breadth of the preceding phases. A careful contextual analysis (immersion) and a clearly shared definition of the design challenge (problem setting) provide the foundation from which relevant, realistic, and transformative ideas can emerge.

In Co-Design, the **shift from listening to ideation is not linear but reflective and iterative**: ideas arise, encounter friction, evolve, and sometimes lead to a redefinition of the problem itself. Within this dynamic, the working group builds shared meaning around emerging hypotheses, reinforcing cohesion and engagement.

3.1.3 The idea as a lever for inclusive transformation

In the context of the IDEA project, **ideation** does not simply mean generating "creative" solutions, but **developing proposals that hold value for all the people involved**—particularly those who are typically excluded from decision-making and design processes.

A design idea becomes a lever for transformation when:

- It emerges from deep and respectful listening;
- it is built in an accessible and shareable form;
- it is grounded in a vision of inclusion as a criterion of design quality.

Inclusive ideation opens a space in which needs are reinterpreted, new scenarios imagined, and opportunities generated—not simply to fix what is lacking, but to **reimagine what could be**.

3.2 PREPARING THE GROUND: INSIGHTS, NEEDS AND TENSIONS

Making sense of initial inputs to orient the design process

How to analyse maps, stories, images, and traces collected during Co-Design to identify what matters. A reflection on what to retain, reframe, or deepen in order to initiate ideation.

3.2.1 Reviewing materials generated during the exploratory phase

The ideation phase cannot begin effectively without a **critical** and **shared re-reading of the materials produced** during the exploratory phase. These materials—verbal records, maps, testimonies, photographs, sketches, problem sheets—constitute the empirical foundation of the process and often contain elements that have not yet emerged in a structured form.

Reviewing does not simply mean revisiting what was said or produced, but rather re-signifying it: selecting what is relevant, connecting distant elements, identifying patterns and contradictions. This interpretive work—ideally carried out in a group setting—helps to reveal the design potential hidden within seemingly fragmented data.

3.2.2 Synthesising explicit needs, implicit cues, and latent desires

In inclusive Co-Design, **needs** are not treated as objective data, but rather as dynamic, situated, and often contradictory constructs.
The challenge lies in synthesising the emerging needs—both those clearly verbalised and those implicit in behaviours or silences—and relating them to participants' desires and aspirations.

An implicit need may be uncovered through the analysis of frustrations, recurring obstacles, or spontaneous adaptations. Latent desires, by contrast, are often expressed in symbolic or imaginative ways, and require interpretive sensitivity and attention. The aim is not to normalise or reduce needs, but to allow their plurality and complexity to emerge as fertile ground for the generation of relevant and generative ideas.

3.2.3 Identifying relevant and guiding design insights

Insights represent those moments of understanding that reveal a **new perspective** on the problem or context: an unexpected tension, a fruitful contradiction, or a revealing relational dynamic. In the transition from listening to ideation, insights act as conceptual bridges: they guide creativity without restricting it, and suggest directions without imposing solutions.

A good insight is both **specific** and **transferable**: it arises from a concrete experience but can be reframed as a broader design challenge. The group's task at this stage is to identify and formulate design insights that are clear, meaningful, and generative.

These can be articulated through simple formulations such as "People X need Y because...", or through generative questions like "How might we...?", "What if...?", "What would happen if...?".

3.3 TECHNIQUES FOR GENERATING IDEAS

Methods to stimulate creativity in inclusive contexts

A repertoire of tools to foster divergence, unlock imagination, and activate creative participation. Useful for facilitators and designers working with heterogeneous groups and aiming for shared solutions.

3.3.1 Brainstorming and its structured variants

Brainstorming is one of the most widely used techniques for **generating ideas** in **group settings**. Its effectiveness, however, depends on how it is adapted to the context and the composition of the participants. In an inclusive approach, it is essential to ensure that every voice is heard and that group dynamics do not disadvantage those with less experience, communicative ability, or confidence in expressing themselves.

In this regard, it is useful to incorporate elements from practices already oriented toward the equity of contributions, such as focus groups.

These methods support dialogue, value each perspective, and help create a climate of mutual listening. Additionally, the use of visual, analog, or tangible tools—such as cards, objects, or drawings—can facilitate expression in groups with diverse communication needs.

Structured variants such as **brainwriting** (writing ideas silently and then sharing them), **round robin** (each participant takes turns suggesting an idea), or **asynchronous brainstorming** (via shared digital boards) can help reduce social pressure and promote more equitable participation.

The use of visual prompts, objects, keywords, or provocations can also support the emergence of ideas from people with different cognitive styles.

3.3.2 Creative methods: SCAMPER, provocations, analogies, What-if

The **SCAMPER method** (Substitute, Combine, Adapt, Modify, Put to another use, Eliminate, Reverse) guides participants in reformulating an existing idea by stimulating lateral thinking through structured questions. It is especially useful when starting from a known product or service and seeking ways to make it more accessible or inclusive.

Design provocations (e.g. "What if time were frozen?") and analogies (framing the problem as if it were a natural, technical, or social situation) help open the collective imagination, particularly in mixed groups.

What-if questions ("What if we reversed the perspective?" "What if we eliminated the interface?") help destabilise assumptions and access unexpected yet potentially innovative solutions.

3.3.3 Visual and embodied techniques: moodboards, mapping, collage

Visual techniques can activate **creative processes** even for people who find it difficult to express ideas verbally. A moodboard is a collection of images, colours, textures, and iconic elements that convey the atmosphere or tone of a possible solution. It is particularly effective in communicating emotions and values without relying solely on logic.

CONCEPT MAPPING

Concept mapping and radial maps help to visually represent the relationships between ideas, needs, stakeholders, and contexts

COLLAGE

Collage—understood both as a graphic technique and as a compositional metaphor—allows for the combination of disparate elements into new configurations, encouraging intuition and personal expression.

BODY-BASED PRACTICES

Body-based practices—such as role-playing, miming, or improvised physical prototyping—can complement or replace verbal communication, opening up alternative channels for design expression.

3.3.4 Inclusive and low-threshold approaches to stimulate creativity

In heterogeneous groups, it is essential to use **low-threshold approaches**—methods that do not require high technical, linguistic, or cognitive prerequisites. Activities such as drawing with eyes closed, associating images with emotions, building with simple materials, or telling stories through personal objects allow everyone to contribute meaningfully.

The organisation of the physical space also affects generativity: circular seating arrangements, distributed materials, horizontal surfaces, and the absence of intrusive technologies create a welcoming and stimulating context.

Time management should be adjusted to support those who need moments of reflection before expressing themselves, alternating individual time with group phases.

Ultimately, the inclusiveness of the ideation phase does not depend solely on the tools used, but on the **care with which they are introduced, adapted, and valued according to the people present.**

3.4 STRUCTURING, SELECTING AND EVALUATING IDEAS

Giving form, coherence, and direction to emerging intuitions

How to organise, refine, and compare ideas in a participatory way. An overview of criteria, tools, and practices for guiding design decisions through an inclusive lens.

3.4.1 Grouping, refining, and connecting ideas

After the generative phase, the **ideas** collected—often numerous, fragmented, and heterogeneous—need to be **structured** in order to be **collaboratively developed.** The first step consists in grouping ideas by semantic proximity or thematic affinity, using techniques such as affinity mapping or visual clustering on walls, whiteboards, or digital tools.

Once conceptual groupings have been identified, the next phase is **idea refinement:** clarifying proposals, reducing ambiguity, and, in some cases, merging similar suggestions. It is important not to lose the richness of the original content, but rather to make it more workable and accessible.

Finally, **transversal connections** between distinct clusters are explored, encouraging hybridisations and unexpected relationships. This process is essential for generating well-articulated design concepts that address multiple dimensions of the problem and reflect the diversity of contributions.

3.4.2 Selection criteria and participatory filtering techniques

The selection of ideas cannot be arbitrary or delegated to a few individuals. In an inclusive process, it is essential to adopt **participatory techniques** that ensure transparency, representativeness, and legitimacy in decision-making.

Among the most effective practices are:

DOT VOTING combined with collective discussion of the results;

MULTI-CRITERIA EVALUATION based on group-defined values (e.g. impact, feasibility, originality, inclusiveness);

PRIORITY MATRICES in which ideas are visually positioned according to two or more variables;

NARRATIVE FILTERS where participants are asked to share which idea they would most like to tell others about, which one moves them most, or which would be helpful to a friend or relative in difficulty.

The filtering process must be carefully designed, avoiding the risk that only the most "presentable" or "easy" ideas emerge at the expense of those that are deeper, more complex, or less immediate.

3.4.3 Decision-making matrices and inclusivity-oriented canvases

To support the transition from raw ideas to structured design concepts, decision-making matrices and structured canvases can be used to guide reflection on key aspects. These tools help groups evaluate proposals systematically and compare them using a shared and logical framework. Examples of useful matrices include:

- Impact vs. feasibility matrix
- Beneficiaries vs. implementation complexity
- Ethics vs. accessibility matrix

In parallel, the adoption of inclusion-oriented design canvases—such as the Social Value Proposition Canvas, or adapted versions of the Business Model Canvas with sections dedicated to barriers, enablers, and marginalised stakeholders—allows for an exploration of the systemic effects and transformative potential of each idea.

Specifically, a section can be introduced to address questions such as:

- *Who might be excluded by this solution?*
- *What adaptations could make it more accessible to a broader range of people?*
- *What unintended consequences might emerge?*

3.5 COMMUNICATING AND SHARING THE IDEA

Shaping the design concept through narrative and visual expression

Strategies to tell the idea in an accessible, clear, and engaging way. Visual tools, use scenarios, and rapid validation methods to support communication in heterogeneous groups.

3.5.1 Narrating the idea: use scenario, persona, context

A good design idea must be told in order to become effective and shareable. Design storytelling is not merely a tool for communication, but a cognitive and social practice that helps test the internal coherence of the idea, highlight its strengths, and reveal potential weaknesses.

The **use scenario** is a key tool: it describes a concrete situation in which a person—real or archetypal—interacts with the proposed solution within a plausible context. This exercise fosters empathy and allows for assessing the effectiveness and inclusivity of the proposal.

The **use of personas**—figures built around the needs, emotions, and characteristics of the intended users—helps the group focus on the user experience and maintain an empathetic perspective during the refinement of the idea.

This technique, already introduced in the chapter on UX Research, acts as a narrative synthesis of qualitative insights gathered during the exploratory phases. Personas help keep the user's presence alive, even when they are not physically involved, providing a constant reference for validating design choices.

However, it is important to remember that personas do not replace direct interaction with real users—especially in inclusive design contexts. They should be used consciously, as dynamic and situated tools capable of representing a plurality of lived experiences, rather than standardised stereotypes.

3.5.2 Sketching, visualisation, and conceptual prototypes

To communicate ideas accessibly, it is essential to translate them into visual or three-dimensional forms. **Sketching**—even if rough or unpolished—makes it possible to externalise abstract concepts and spark more concrete, focused discussions. It can include drawings, diagrams, flowcharts, interaction maps, or spatial representations.

The **conceptual prototype** is a basic representation of the idea: it may take the form of a physical model, a mockup, a simulation, a photo sequence, a maquette, or a symbolic composition. It does not need to be technically refined, but it must convey the essence of the idea—its function, usability, and expected effects.

Techniques such as **role-playing** or **dramatization** can complement visual representation, making the experience more vivid and comprehensible even for people with limited technical or linguistic skills.

3.5.3 Rapid validation and feedback in mixed groups

Early validation helps to detect design issues and gather reactions from potential users, stakeholders, and other participants. In inclusive contexts, validation is not a one-way test but a **practice of dialogue and mutual learning.**

Lightweight tools such as **"quick feedback"** (e.g. three words to describe the idea, one strength, one question), **accessible evaluation grids** (with symbols, colours, emojis, or simplified scoring), or **guided group discussions** with open questions can bring out qualitatively rich insights.

It is important to collect diverse types of feedback—not only on functionality, but also on desirability, perceived accessibility, emotional impact, and alignment with the group's values.

The goal is not to confirm the idea, but to nurture its evolution through an iterative process that leads into the next phase: prototyping and testing.

3.6 TRANSLATING THE IDEA INTO A DESIGN CONCEPT

Formalising the idea to guide it toward prototyping

How to define objectives, target audiences, and criteria for inclusive quality. A synthesis phase that prepares the transition from intuition to concrete experimentation.

3.6.1 Formalising the idea through a systemic lens

Once clarified and shared, the **idea must be formalised into a design concept**—that is, transformed into a structured description that highlights its internal coherence, feasibility, and capacity to generate value in the context in which it will be applied.
To formalise means to give the idea form, structure, and direction—moving beyond intuitive thinking toward a systemic vision.
This formalisation involves:

- defining the core elements of the project
- understanding how the solution will be used over time;
- anticipating alternative scenarios and conditions for adaptation.

A well-constructed concept explicitly states what is being proposed, for whom, in which context, by what means, and how it contributes to the expected social or environmental transformation

3.6.2 Defining objectives, users, and criteria for inclusive quality

Clarity of objectives is a necessary condition for project feasibility: what is expected to be achieved in the short, medium, and long term? General objectives (e.g. promoting autonomy, facilitating participation) must be accompanied by specific, measurable goals—even if expressed qualitatively.

Defining target users requires attention to plurality: there is no such thing as a universal user, but rather an ecosystem of individuals with different characteristics, needs, and constraints. The use of multiple user profiles, stakeholder maps, or contrasting scenarios helps account for real diversity.

However, in contexts where work focuses on highly specific needs, plurality often converges toward strong personalisation. In these cases, one operates according to what could be called a "**Design for Each**" approach: placing the individual, their constraints, and their potential at the centre.

This is a profoundly inclusive approach, but it requires methodological awareness: not all design strategies built around an individual can be automatically generalised, and the documentation of these experiences must acknowledge their uniqueness and limited replicability.

Criteria for inclusive quality must be made explicit: accessibility, usability, adaptability, equity, sustainability, and cultural representation.Every project should clearly state how it addresses physical, cognitive, sensory, and social barriers—and what strategies it adopts to foster inclusion starting from the conceptual phase.

3.6.3 Preparing the transition to the prototyping phase

The design concept serves as a bridge between ideation and prototyping. For this reason, it must include enough operational detail to guide action—without overly constraining the project. It is an "open form": it provides direction, but does not close down possibilities.

Preparing this transition means:

- identifying what can be prototyped immediately (key functions, interfaces, interactions);
- assessing what skills and resources are needed to move forward;
- pinpointing the unresolved design questions that will drive empirical exploration.

The concept thus becomes a **collective artefact:** *a synthesis of what has emerged, a roadmap for what comes next, and a tool for communication and coordination across different teams (e.g. designers, makers, institutional stakeholders, end users).*

3.7 TESTED APPROACHES AND TOOLS FOR INCLUSIVE IDEATION

Practices and methods emerging from real-world contexts of participatory design

A selection of experiences, tools, and techniques developed in lab-based and co-design environments to support inclusive ideation. Not a universal model, but a repertoire of adaptable solutions that reflect situated knowledge and methodological flexibility.

3.7.1 Activities tested in real-world labs

In recent years, numerous initiatives have explored inclusive ideation within participatory and lab-based settings. Some approaches, developed through fieldwork, have contributed to building methods and tools adaptable to heterogeneous groups and non-standard contexts.

Among these, the work developed by **Hackability** has offered valuable insights into structuring ideation *with and for* people with disabilities, makers, caregivers, and designers. The practices presented here do not constitute a universal model, but rather an experimental trajectory that can be compared and integrated with other emerging approaches.

Some of the most consolidated activities include:

- co-constructing needs through multi-voice dialogues between users and designers;
- problem-setting games using visual and narrative supports
- facilitated ideation sessions with tactile materials and visual prompts;
- informal presentations of ideas with immediate feedback from the mixed group.

These experiences show that inclusive ideation is possible—provided it is grounded in rigour, care, and methodological flexibility.

The goal is not to replicate a single model, but to develop design ecologies capable of responding to specific conditions and valuing the contribution of every participant.

3.7.2 Original tools and inclusive adaptations

Within the context of inclusive lab-based practices, various working groups have developed tools and devices specifically designed to facilitate self-determined participation, including for people with cognitive, motor, or sensory disabilities.

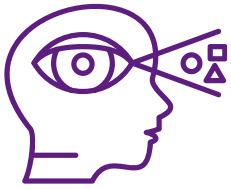
Some of these solutions—emerging from experimental experiences such as those promoted by **Hackability**—include:

THE TEAM MAP

used to clarify roles and expectations at the start of collaborative work.

THE NEEDS–DESIRES–VALUES SHEET

diseñada para estimular reflexiones preliminares antes de la ideación.



THE VISUAL STIMULI KIT

composed of objects, photographs, textures, and guiding phrases, useful for activating creativity in heterogeneous groups.

THE CHARTER OF MUTUAL RULES

a symbolic and narrative agreement that shapes the shared dynamics of the lab.

In these approaches, adaptation is not seen as a standardised simplification, but as a situated and co-creative process in which participants are directly involved in defining the conditions of accessibility.

Tool design does not precede relationships; it develops within them—responding to the contexts, limitations, and potential of each specific group.

3.7.3 Lessons learned and pedagogical implications

Experiences of inclusive ideation developed across various contexts—including experimental labs such as those of **Hackability**—suggest that there is no standard methodology for inclusion. Rather, inclusion is a **design and pedagogical mindset** that must be cultivated and situated.

Some of the most frequently recurring lessons include:

- the importance of building trust before generating ideas;
- the need to make "imperfect" contributions visible and legitimate, especially when expressed in unconventional ways;
- the value of slowness as a condition for the emergence of divergent thinking among those with histories of exclusion.

From a learning perspective, these processes have shown that inclusive ideation produces **transversal learning outcomes** for all involved: from the development of design empathy to the acquisition of relational skills, systemic thinking, and the ability to work within uncertainty.

A design idea—when born from a truly participatory process—is not merely an output. It can become a **catalyst for cultural, educational, and relational transformation.**

04 PROTOTYPING AND VALIDATION

04

FROM CONCEPTS TO INCLUSIVE SOLUTIONS

This module focuses on bringing design ideas to life through prototyping and iterative validation. It introduces practical methods for developing, testing, and refining solutions with users, ensuring that prototypes meet real-world accessibility, usability, and desirability requirements.

This module enables participants to acquire practical skills for developing and testing prototypes iteratively. It focuses on translating inclusive design concepts into tangible solutions, incorporating user feedback throughout the process to ensure accessibility, usability, and relevance.

4.1 CENTRAL ROLE OF PROTOTYPING IN CO-DESIGN

From concepts to inclusive solutions

Prototyping is not the end, but the way: a shared and continuous practice that shapes understanding, dialogue, and inclusion throughout the design process.
An introduction to the central role of prototyping in co-design.

Why dedicate an entire chapter to prototyping in a text about a Co-design Toolkit? Didn't we learn in design schools that the prototype is the final step, the crowning moment after days and days of drawing, squeezed into the last few hours before delivery?

In the next chapter, we'll explain why we challenge this assumption and how, by following the *Hackability Thinking* approach, we treat prototyping as a central tool—applied continuously throughout the project, rather than only at the end.

Moreover, since the IDEA methodology is based on co-design, we'll have the chance to test prototyped solutions multiple times with the need at the table, to really ensure our design addresses real problems.

In the IDEA processes, the **prototype** isn't just a downstream artifact: it's a **methodological tool**, a mediator between designers and people with specific needs. Its function is multifaceted: it helps to understand, communicate, correct, and, above all, to involve.

It's also a tool that helps simplify complexity by breaking it into small, tangible problems—things we can discuss, measure, and learn from.

In this context, the Toolkit proposes a **prototyping approach t**hat's not linear, but iterative and diffused throughout the process. We prototype early, we prototype often, and each new version is a moment for listening, reviewing, improving. Rather than a final goal, the prototype is a confirmation moment—whether what we imagine is actually something we can create together.

Finally, and just as importantly, in an inclusive context, **prototyping** is not just a technical activity: it's a **relational practice**, a space where people learn from each other, transforming the process itself into a moment of mutual learning.

4.2 WHY PROTOTYPING

Why Prototyping

In this section we'll discover how prototyping works as a common language in co-design: a tangible way to think through designing, make ideas visible, and generate discussion. We'll see why its imperfection is not a weakness, but a resource to test assumptions, surface doubts, and unlock new insights.

Prototyping mainly helps us better understand what we're doing. In an inclusive co-design process, where ideas emerge from the meeting of very different experiences, the prototype becomes a tangible meeting point—a shared base to verify whether we're truly heading in the right direction.

We can think of it as a kind of "lingua franca" for the Co-design table. Precisely because it's not perfect, the prototype is not only useful to confirm our assumptions, but also to surface doubts, new questions, and ambiguities that often lead to very helpful insights.

Contrary to popular belief, **prototyping** is not a phase that comes "after ideation," but a **way to think through designing**. Building a first model—even crude and imperfect—helps make visible both the limitations and potential of an idea. It lets us verify how understandable, accessible, and relevant the imagined solution is, before investing too many resources.

Finally, in an inclusive context, prototyping also means **making the process itself accessible**: the materials, methods, and language we use to build should be clear, shareable, and open to everyone involved.

In complex environments that often require rapid feedback, validating design hypotheses from the very beginning is crucial. An idea may seem brilliant "on paper" but prove inadequate, inaccessible, or simply useless when tested with real users.

To recap, the prototype helps us to:

- Quickly validate
- Save time and money
- Learn from our mistakes
- Have a mediation object between the various players at the table

4.3 WHAT DOES A PROTOTYPE VALIDATE?

What does a prototype validate?

In this section we'll discover how prototypes help test if an idea works in real life: its functionality, durability, ergonomics, user experience, and material suitability. All these checks ensure the design is practical, safe, and truly inclusive.

Moving to a more technical level: what can we validate with a prototype?

Put simply, it helps us **understand whether what we've imagined can work in the real world.** So, what does it mean for something to "actually work"?

In our view, it means that the resulting object from our idea should be: useful, usable, safe, easy, and durable. Here are the aspects a prototype helps validate—drawing from both literature and real-life examples of inclusive co-design.

4.3.1 Technical functionalities

First and most immediate check: does it do what it's supposed to do?

An aid should facilitate movement; support must hold weight; a device should respond to commands. The prototype lets us **verify** whether the **technical components** (mechanical, electronic, digital) **respond correctly to inputs and complete the tasks they were designed for.**

At this stage, bugs, malfunctions, overly complex or fragile solutions often emerge—providing clear feedback on what kind of revision the build logic requires.

RESISTANCE

Often, during tests, the instinct is to handle the prototype gently, as if it were a precious trophy born of much effort. But it's quite the opposite: the prototype should be mistreated, stressed, pushed to its limits. Only then can we truly see where it holds and where it needs reinforcement, simplification, or rethinking. We even like to say, jokingly, that our job is to break the prototype so we can make it better.

It's not enough for an object to work once. It must endure daily use, surprises, time. By "resist," we mean mechanical strength (it shouldn't break, deform, or yield under pressure), and thermal resistance (if it contacts heat or outdoor environments).

In short, we're not interested in whether it works—but in when it breaks, and how much it can take before failing. Luckily, we get to test it in real-life contexts, so we can move beyond theoretical assumptions.

ERGONOMICS

Try this simple test: draw a basic ring that fits your index finger. Sounds easy? Maybe, but to follow my request, you likely had to measure your finger—probably the diameter. Even after drawing it, you still couldn't be sure the ring would fit just right. You'd need to run some tests to find the correct size.
Even with this simple example, it's clear how crucial it is to validate the ergonomic aspect of our project. The prototype allows us to verify the relationship between the person and the object: the positioning of hands and fingers, grip comfort, visibility, reachability, and ease of use.

USER JOURNEY

Every designer knows how important it is to study the user's journey during a project. Building a prototype and handing it to the need for testing can give us valuable insights into whether what we designed works. What happens before, during, and after using that object?

- *How do I grab it? Where do I place it?*
- *Do I need another hand to activate it?*
- *How do I clean it, store it, reactivate it?*

MATERIALS

Finally, the prototype helps us determine whether the materials we chose are suitable for the object's function.

- *If an orthosis touches the skin, is it biocompatible?*
- *Could it cause irritation from friction?*
- *What does it feel like to touch?*
- *Is it hot or cold? Rough or smooth?*

Finally, the prototype helps us determine whether the materials we chose are suitable for the object's function.

- *Is it easy to clean? Will it stain irreversibly?*
- *Are the materials affordable and easy to find?*

4.3.2 Before the prototype: the pretotype

Even before building a prototype, there's a faster, lighter, and more exploratory step: **pretotyping**.

This is when we test whether it's even worth prototyping—whether the idea makes sense, sparks interest, and truly addresses a real need. In pretotyping, we don't build the object yet. We test the design hypothesis—maybe with a sketch, a simulation, a mock trial, or even just by asking: "If this existed, would you actually use it?"

It helps us avoid wasting time and energy on solutions no one asked for or on problems that don't exist. It's a quick, low-cost, high-impact strategy.
Pretotyping helps us choose which ideas are worth turning into real prototypes and brings out latent needs before we start investing time, energy, and money into a potential project.

4.4 PROTOTYPE DEFINITION: HIGH, LOW, AND EVERYTHING IN BETWEEN

High, low, and everything in between

Prototypes exist along a continuous scale, from rough early sketches to refined, real-world solutions. We'll see how choosing the right level of fidelity for each phase helps test ideas, learn quickly, involve people early, and validate individual parts without unnecessary effort or cost.

By prototype "definition," we mean how precise, technically advanced, or formally close it is to the final goal—with refined materials.

In traditional design language, people often talk about "low fidelity" and "high-fidelity" prototypes. That isn't wrong, it helps us understand the two ends of the spectrum, but it doesn't mean there's nothing in between.

We prefer talking about a continuous scale of definition. It's not just two extremes, but a smooth progression—from minimal materialization (a sketch on paper, a quick mock-up with scraps) to a final, validated prototype ready for real-world use by the need.

4.4.1 Definition depends on what we want to discover

An early prototype can be rough, but enough to test if an idea makes sense or if its core principle is understandable.

As the project evolves, we can build more refined versions to test aspects like ergonomics, usability, materials, or structural robustness. So we don't increase fidelity to "make it look nice," but to discover new things. Aesthetic quality or visual realism only matter if they help validate something relevant to the project.

4.4.2 Progression as part of the method

This definition progression is an integral part of the process.

Starting “small” allows us to explore more alternatives, involve people early, and pivot without heavy investments. A “lean” approach to prototyping lets us get quick, low-cost answers.

In our paths, it’s common to see teams start with cardboard or clay models, move to 3D printed versions, and finally land on a solid, refined, everyday-ready solution that can be handed over to the need.

4.4.3 Not a rigid scale

It’s important to remember that this scale isn’t rigid: you can go backward, skip a step, or fork into two different directions. Sometimes, we’ve even seen a prototype turn out so well that it unexpectedly becomes the final one. The goal is not just to “move forward,” but to learn something useful each time.

4.4.5 A matter of strategy

Choosing the “right level of fidelity” for each phase of the project is a strategic act.

It requires asking:

- *What do we want to understand right now?*
- *Who is using the prototype, and in what context?*
- *How much time and how many resources do we have to build it?*
- *What are the risks if this part doesn’t get validated?*

Based on these questions, we can decide whether cardboard and tape will do the job —or if we need a working electronic prototype.

Both are valid, if they serve the purpose.

4.5 PARTS OF A PROTOTYPE

Learning in parts

In this section we'll discover how breaking a prototype into separate parts allows us to test, validate, and optimize each element individually. This approach simplifies complexity, accelerates testing, enables parallel work, and ensures clearer results while saving time and resources.

A common mistake is to think of the prototype as a single, compact, indivisible object.

In reality, a **prototype** is not a monolith, but rather the **sum of different complexities**. And as with all complex things, it makes sense to break it down into simpler problems—to deconstruct, analyze, and validate each part individually.

This logic not only makes the work more manageable but also helps reduce error, optimize time, and make project development more efficient.

4.5.1 Validating one part at a time

Let's look at a practical case: we're designing a component to be 3D printed, and we need to define the diameter of a hole. We're unsure if the chosen measurement will work—maybe due to tolerance issues. Instead of printing the entire object and hoping for the best, we isolate the "hole" problem.

We print a small test piece with five holes, each slightly different in size. Then we physically test and measure them—we'll quickly see which diameter works best. At that point, the "hole problem" is solved.

We can move on, having validated one piece of the whole, and reduced the system's complexity.

4.5.2 Different functionalities, different prototypes

Breaking the prototype into **multiple parts** is also helpful when dealing with problems from different functional areas.

For example, we might start by working on an object's grip (ergonomics), and only later on the mechanism that allows it to rotate (kinematics, tolerances, forces).

Separating these two aspects—and developing them in two distinct prototypes—helps simplify the thinking, speed up testing, and yield clearer answers.

4.5.3 Optimizing development time

Another benefit of this approach is the ability to **optimize timelines.**

Let's say one part of the project—like a housing for a bearing—is ready before the others. If we treat it as a standalone piece, we can go ahead and 3D print it right away, without waiting for the rest to be finalized. This gains us precious hours and often helps us meet deadlines—or simply start testing earlier.

Finally, there's a very practical topic: **managing fabrication resources.**

If we have multiple 3D printers, we can use them in parallel—printing different components at the same time—instead of launching a single, long print for the whole prototype (which may also carry higher risk of failure).

This helps us optimize workloads, reduce downtime, and better adapt production to the pace of the project.

4.6 TECHNOLOGIES AND MATERIALS FOR PROTOTYPING

Tools for inclusive making

In this section we'll discover the tools and materials that make inclusive prototyping accessible to all. From simple analog resources like cardboard and clay to digital fabrication methods such as 3D printing and laser cutting, we'll see how choosing the right technology at the right time enables fast, affordable, and collaborative design.

The **rise of the maker movement and FabLabs** happened at the beginning of the 21st century.

It's no surprise, then, that we rely on those accessible technologies that finally allow anyone to build nearly anything at low cost, with tools replicable anywhere.

Inclusive prototyping doesn't necessarily require big investments, just good knowledge of the right tools at the right time.In this chapter, we'll explore the ones we use and recommend in projects that follow IDEA Methodology.

4.6.1 Analog and digital tools for prototyping

ANALOG TOOLS

Cardboard, paper, glue, modeling clay, fabrics, toothpicks, tape, and scrap materials remain essential tools to start designing in a concrete and inclusive way.They're affordable, quick to use, easy to understand, and perfect for sketching ideas, exploring shapes, and sparking dialogue. They're the starting point for any project that truly wants to involve everyone at the table—regardless of each participant's technical background.

3D PRINTING: FDM, SLA, SLS

There are three main 3D printing technologies. The most common is **FDM (Fused Deposition Modeling).** It uses melted plastic filaments, layered one on top of the other.
It allows for:

- **SLA (Stereolithography):** uses photopolymer resins cured by a UV laser. High resolution, but more expensive and delicate to manage.
- **SLS (Selective Laser Sintering):** works with sintered powders. Excellent for complex geometries but not ideal for everyday rapid prototyping due to costs and timing.

We primarily suggest FDM because it offers the best price/performance ratio. It's easy to use, widely available, low maintenance, and more than adequate for functional prototypes.

A quick rundown of common FDM materials:

- **TPU:** a soft, elastic polymer—great for flexible surfaces, grips, or deformable items.
- **PETG:** a stiffer, more resistant polymer—suitable for structural and mechanical parts.
- **PLA:** the most common, affordable, easy-to-print material. It's biocompatible, making it suitable for skin contact or sensitive environments.

LASERCUT

Laser cutting is one of the most useful tools for making flat components, interlocking structures, or tactile surfaces. Its main strength is speed: a whole sheet can be cut in minutes. Its limit is that it only works in two dimensions—but that's exactly what makes it perfect for flat parts, frames, interfaces, or even assembly templates.

It usually works on plywood, MDF, acrylic, fabric, EVA, or pressed cardboard. It's also great because, in addition to cutting, it can engrave and draw—at a speed and precision unmatched by other tools.

PROGRAMMABLE BOARDS AND MECHATRONICS

When a prototype needs to interact with the environment or respond to stimuli, the ideal tool is an open-source programmable board—one that can control sensors, actuators, motors, vibrations, sounds, and lights.

These boards allow us to build objects that read inputs (pressure, light, motion, temperature) and generate outputs (movement, sound, visual or haptic feedback). They're ideal for building smart aids that adapt to the user or communicate with them —or for designing custom interfaces. All at a low cost, with tons of documentation freely available online.

4.6.2 Iterate to learn

Prototyping isn't about proving we're right — it's about discovering what we still don't understand. That's why you don't prototype just once. You prototype, test, listen, revise, and try again.

Prototyping is an iterative process, and each iteration is a **learning opportunity.**

Build, measure, learn — this simple cycle allows us to refine the solution step by step, improving not only the object, but also our understanding of the need we're trying to address.

Alongside technical data, each prototype gives us insights, surprises, unexpected mistakes, emotional reactions, or gestures we hadn't considered.

We learn not just if something works, but how it feels:

- *Is it comfortable?*
- *Is it beautiful?*
- *Is it usable?*
- *Is it intuitive?*

Testing in real-world contexts, with diverse users, isn't just about fixing errors: the prototype becomes an object that sparks dialogue, generates new understandings among participants, and helps redistribute design agency among everyone involved.
As a small methodological note: to preserve this value from the research phase, it's useful to document every step — what works, what doesn't, the questions raised by the need.

This documentation becomes part of the project itself and makes visible even what doesn't end up in the final prototype.

So let's repeat: ***the goal isn't to build something perfect, but to build something that teaches us.***

4.7.1 Open as a huge prototyping resource

Open design is an extraordinary resource for prototyping, capable of exponentially increasing the iterations of the design process.

In this spirit, Hackability created the portal Space.Hackability.it, where not only finished projects are shared, but also the steps to reproduce them, the materials used, and—most importantly—the lessons learned along the way. Releasing a project gives others the opportunity to repeat the validation process through the prototype, potentially adapting the need, technologies, or skills involved.

For example, we might prototype and validate an assistive device for handling a fork in Italy, publish it in open access, and see it taken up by someone on the other side of the world—say, in Australia—who adapts, improves, and releases a new version.

We could then use that improved version ourselves, entering a virtuous cycle of shared iterations where each step adds value.
This approach allows a single prototype to generate far greater value, transforming it into an open project that grows through the contributions of a distributed community.

Conclusion

A good prototype, then, isn't built to show we were right, but to stress-test the project from every angle: functional, physical, perceptual, and experiential.

Thanks to the evolution of digital fabrication tools, we now have countless ways to prototype our ideas.

But it's up to us to choose the approach that best fits our situation.

With a constructive mindset — and without getting discouraged — we must remember that every attempt, even the ones that "go wrong," brings us **closer to a better solution.**

05 INCLUSIVE THINKING

05

MINDSETS AND PRACTICES FOR EQUITY AND ACCESS

This module defines inclusive thinking as a mindset that values diversity and equity. It explains how inclusive thinking informs educational and design practices, encouraging educators to recognize different needs and perspectives, remove barriers, and foster environments where everyone can thrive.

The objective of this module is to foster reflective practice and cultivate a mindset that values diversity, equity, and accessibility in all stages of design and education. It helps participants recognize different needs and perspectives and encourages them to challenge assumptions and promote inclusive environments.

5.1 BUILDING A WORLD THAT WORKS FOR EVERYONE

Principles for truly inclusive creative environments

This chapter introduces inclusive thinking as both a mindset and a practice for creating equitable, accessible, and empowering environments. It explores key principles—equity, empathy, accessibility, representation, and flexibility—and highlights their importance in creative and digital fabrication spaces to ensure participation, innovation, and learning opportunities for all.

5.1.1 Understanding inclusive thinking

Inclusive thinking is a mindset and practice aimed at ensuring everyone, regardless of background, identity, ability, or circumstance, is respected, considered, and given equitable opportunities to thrive. In educational and creative environments, this approach means **designing systems, tools, and experiences that welcome and empower *all* participants**.
This module provides readers with a comprehensive understanding of **inclusive thinking**, combining theory, practical strategies, and examples to support application in real-world settings.

Inclusive thinking is about embedding equity and accessibility into every stage of the problem-solving, design, and communication process. Rather than focusing solely on equality, it embraces equity, offering tailored support so each person can succeed. Inclusive thinking sees **diversity as a strength** and focuses on recognizing and valuing different perspectives. It moves beyond surface-level diversity and seeks to create systemic change that benefits all members of society.

Key principles:

EQUITY OVER EQUALITY

Equality means giving everyone the same resources or opportunities. Equity acknowledges that individuals have different circumstances and allocates the exact resources and opportunities needed to reach an equal outcome. For example, providing the same type of computer to all learners may seem fair, but equity considers whether that computer works for a student with visual impairments and provides assistive technology accordingly.

EMPATHY

This principle encourages individuals to see the world from others' perspectives. Empathy drives inclusive design because it leads designers and educators to ask, "What challenges might this person face, and how can I help remove them?" It requires active listening, emotional intelligence, and a willingness to be vulnerable and open-minded.

ACCESSIBILITY

Accessibility refers to the design of products, environments, services, and experiences so that they are usable by people of all abilities. This includes physical accessibility (e.g., ramps, tactile paving), digital accessibility (e.g., screen reader compatibility, captioned videos), and cognitive accessibility (e.g., simplified language or visual instructions).

REPRESENTATION

Representation is about ensuring that diverse perspectives are not only heard but actively involved in shaping outcomes. This includes consulting with people from different racial, cultural, gender, and ability backgrounds in design teams, focus groups, and leadership roles. Inclusive representation helps avoid one-size-fits-all solutions and ensures relevance and fairness.

FLEXIBILITY

Flexibility in inclusive thinking means being ready to adapt when needed. This could involve offering alternative formats (audio, text, visuals), using different teaching methods, or adjusting timelines based on individual needs. It recognizes that one approach doesn't fit all and values ongoing feedback and iteration.

5.1.2 The relevance of inclusive thinking in creative spaces

Creative spaces, such as makerspaces, digital fabrication labs, and collaborative studios, have become **hubs for innovation, learning, and personal expression.** These environments empower individuals to bring ideas to life through hands-on engagement with tools ranging from 3D printers to laser cutters, coding platforms to sewing machines. They represent a shift in how we think about education and innovation, emphasizing creativity, experimentation, and the ability to "make" as a way of knowing. However, as these spaces proliferate across schools, libraries, universities, and community centers, a critical question emerges: **who gets to participate in this revolution of making?**

5.1.3 An essential answer

Inclusive thinking is a mindset and practice that actively seeks to recognize, understand, and accommodate the diverse needs, identities, and experiences of all individuals, particularly those from historically **marginalized or underrepresented groups**. This includes, but is not limited to, people with disabilities, individuals from diverse cultural or linguistic backgrounds, gender-diverse individuals, older adults, and those experiencing socioeconomic disadvantages. In the context of digital fabrication and creative spaces, inclusive thinking means designing both the physical and social environment in ways that invite and support full participation from everyone. It means reimagining what is possible, not only in terms of the products created, but in who gets to create them and how their contributions are valued.

Creative and digital fabrication environments offer more than just access to cutting-edge technology; they offer a platform for storytelling, **problem-solving, and identity formation**. For learners of all ages, these spaces can serve as arenas for expressing ideas, testing concepts, and acquiring real-world skills that have implications for careers in design, engineering, art, entrepreneurship, and beyond. Yet these benefits are not automatically or equally distributed. Barriers, whether physical, technological, cultural, or attitudinal, can limit who feels welcome or capable of participating. Without intentional design and inclusive thinking, these spaces risk reproducing the same inequities they often aspire to challenge.

Incorporating inclusive practices ensures that creative spaces serve as **equitable environments** where all participants can thrive, contribute, and innovate. Let us now explore the multifaceted benefits of such an approach.

5.2 THE BENEFITS OF INCLUSIVE THINKING IN CREATIVE SPACES

The value of inclusive thinking in creative spaces

This section highlights how inclusive thinking enriches creative and fabrication spaces by driving innovation, enhancing participation, supporting professional growth, and strengthening communities.

5.2.1 Benefits of inclusive thinking

Which are the benefits of inclusive thinking in creative and fabrication spaces?

Sparking innovation through diverse perspective

When people from different backgrounds come together, they bring with them unique lived experiences, problem-solving strategies, and creative insights. Inclusive environments leverage this diversity, resulting in richer ideation processes and more innovative outcomes. For instance, a project co-developed by people with and without disabilities might result in a product that is more universally accessible, and thus more impactful in real-world contexts. Design that accounts for a wider range of human experiences tends to be more thoughtful, adaptable, and sustainable. In essence, inclusive thinking doesn't just make space fairer; it makes the work better.

Enhancing participation and collaboration

Inclusive spaces are structured to minimize barriers and support multiple forms of engagement. This might include offering assistive technologies, providing materials in multiple languages, using flexible workstations, or fostering a culture of mutual respect and empathy. The result is a community in which collaboration is strengthened because all members are empowered to contribute their best work. When learners see their abilities and identities reflected and respected in the space around them, they are more likely to engage, take risks, and support others in doing the same. Participation becomes not only possible but meaningful.

Fostering professional growth through Iiclusive practices

Exposure to inclusive thinking in creative environments prepares learners for the diverse realities of professional life. As workplaces increasingly value equity and collaboration, individuals who are skilled in inclusive practices, such as active listening, adaptive design, and cross-cultural communication, are more likely to succeed. Furthermore, inclusive makerspaces help learners build confidence, leadership, and self-advocacy. They learn to navigate differences with empathy and to design solutions that serve broader communities, making them not just competent professionals but conscientious citizens.

Strengthening communities by removing barriers to engagement

At their best, digital fabrication and creative spaces become more than just educational tools, they become community anchors. By removing barriers to participation, these spaces can catalyze stronger social bonds, cross-generational mentorship, and community-based innovation. For example, a community makerspace that welcomes elders, immigrants, and youth alike can foster intergenerational learning and a shared sense of ownership.
Inclusive thinking, in this context, supports both the individual and the collective, creating resilient networks that extend far beyond the walls of the lab.

5.3 INCLUSIVE THINKING: FROM ACCESS TO COMMUNITY

Frameworks and strategies for Inclusive Thinking

This chapter explores inclusive thinking as a mindset that goes beyond providing access to actively fostering communities of equity, empathy, and collaboration. It introduces key frameworks—Human-Centered Design, Universal Design, Culturally Responsive Thinking, and Intersectionality—alongside practical strategies and tools.

5.3.1 Inclusive thinking

Inclusive thinking requires us to move beyond simply providing access to tools and spaces; it calls for a deeper commitment to fostering communities. This means ensuring that all individuals are not only present, but are truly seen, heard, and valued. It means co-designing environments with users, not just for them. It also means being willing to question assumptions, revise practices, and embrace discomfort in the service of equity and excellence.

Educators, designers, technologists, and policymakers each have a role to play in embedding inclusive thinking into the culture and infrastructure of creative environments. This requires intentionality, reflection, and a willingness to challenge the status quo to support meaningful and lasting inclusion.

5.3.2 Approaches to inclusive thinking

The following frameworks guide the practical application of inclusive thinking, each offering a different perspective on how to design with diversity and equity in mind:

1 HUMAN-CENTERED DESIGN (HCD)

This approach focuses on understanding and addressing the real needs, emotions, and contexts of people through processes of empathy, iteration, and co-creation. Inclusive HCD prioritizes the voices of those who are most affected by design decisions, involving them throughout the process rather than merely consulting them at the end.

2 UNIVERSAL DESIGN

Universal Design emphasizes the importance of designing environments, products, and tools that are usable by everyone from the outset, regardless of age, ability, or background. Rather than creating separate solutions for different groups, it seeks to provide shared and flexible solutions that benefit all users.

3 CULTURALLY RESPONSIVE THINKING

This approach recognizes and values the diverse cultural backgrounds, traditions, and knowledge systems that learners bring with them. It encourages designers and educators to honor and reflect cultural differences in content, communication, and engagement strategies to foster belonging and relevance.

4 INTERSECTIONALITY

Intersectionality examines how different aspects of a person's identity—such as race, gender, disability, socioeconomic status, or sexuality—interact to influence their experiences of inclusion or exclusion. It encourages us to move beyond single-issue perspectives and consider the complex realities people navigate, enabling more equitable and responsive design.

5.3.3 Methodological framework and strategies

The different modules and the toolkit adopt a blended educational model that combines individual reflection, collaborative learning, and hands-on practice. It aligns with four educational pillars: creativity, digital skills, social skills, and professional development.

EDUCATIONAL STRATEGIES

- **Problem-Based Learning:** learners are challenged to solve real-world problems that highlight the importance of inclusivity, requiring them to research, prototype, and reflect on inclusive approaches to complex issues.

- **Participatory Design:** people engage in co-design activities with users, particularly those from marginalized or underrepresented communities, ensuring that design solutions are grounded in lived experience and collective input.

- **Experiential Learning**: people learn by doing through workshops, simulations, and design tlsks that allow for active experimentation, followed by critical reflection to deepen understanding and refine approaches.

- **Inclusive research**: learners are trained to carry out ethical and inclusive research, including interviews, surveys, and co-creation sessions with a broad range of users, capturing diverse needs, preferences, and barriers.

INCLUSIVE TOOLS AND METHODS

- **Empathy Maps** help capture a user's thoughts, emotions, behaviors, and pain points, providing designers with a structured tool to better understand how individuals interact with environments, products, or services.
- **Accessibility Audits** identify barriers in physical, digital, and social environments. These evaluatios help teams pinpoint where exclusion may occur and suggest actionable, inclusive improvements to ensure broader usability.
- **Bias Mapping** involves identifying and reflecting on unconscious assumptions or stereotypes that might influence design decisions. The goal is to mitigate implicit bias and promote fairer, more inclusive outcomes.
- **Inclusive Language Guides** encourage respectful and equitable communication by promoting the use of gender-inclusive, culturally sensitive, and non-ableist language. They support creating environments where all individuals feel seen and respected.
- **Shadowing Technique** involves directly and discreetly observing a person as they interact with a space, product, or service. This technique allows designers to gain deep insights into real user behaviors, including unspoken needs or hidden difficulties, providing valuable input for enhancing accessibility and usability.

5.3.3 Final reflection: inclusive thinking as a mindset

Inclusive thinking is not a checklist. It is a **mindset** and a **continuous commitment** to design with awareness, empathy, and purpose. It calls on us to reimagine the way we create, communicate, and collaborate, not just to accommodate differences, but to embrace it as a source of innovation and strength.

In an increasingly complex and interconnected world, the challenges we face (social, technological, environmental) cannot be solved through narrow perspectives or exclusionary practices. Inclusive thinking teaches learners **to look beyond norms and assumptions**, to question who is being served and who is being left out, and to build environments, products, and systems that empower rather than limit.

By fostering inclusive thinking, we are not just teaching to be better designers, engineers, educators, or makers; we are **cultivating compassionate leaders and innovative changemakers**. These are individuals who understand that accessibility and representation are not optional, but foundational. They recognize that equity is not about lowering standards but about raising the floor so that everyone has the chance to succeed.

Inclusive thinkers are equipped with the tools to listen actively, adapt designs responsively, and collaborate respectfully across differences. They are prepared to lead equitable transformation in their communities, workplaces, and industries. Most importantly, they carry forward a mindset that values every voice, sees potential in every person, and believes in a future where **no one is left behind.**

Let this chapter serve not just as a guide, but as a call to action, a reminder that inclusion is not a destination, but a direction. When we embed inclusive thinking into the fabric of our educational and creative practices, we are laying the foundation for a world that truly works for everyone.

06 INCLUSIVE COMMUNICATION

06

TECHNIQUES FOR ACCESSIBLE AND RESPECTFUL INTERACTION

This module explores communication strategies that promote inclusion, respect, and clarity in diverse learning and design environments. It provides guidelines for verbal, written, and non-verbal communication that meets varied needs, supporting educators in creating accessible, welcoming spaces for all.

This module aims to develop participants' ability to communicate clearly, respectfully, and accessibly across varied abilities and contexts. It provides guidance on verbal, written, and non-verbal communication strategies that promote inclusion, dignity, and participation for all.

6.1 THE POWER OF LANGUAGE IN BUILDING INCLUSIVE SOCIETIES

The power of language

Language is not neutral—it reflects, reinforces, and challenges how we understand the world. The words we choose shape how we perceive others and how they participate in society. For people with disabilities, communication can affirm dignity or perpetuate exclusion.
Inclusive communication goes beyond political correctness. It promotes social equity, especially in education, enabling everyone to feel respected, seen, and valued. It challenges norms that marginalise those outside dominant models of ability, gender, age, or culture.
Its importance is recognised in the UN Convention on the Rights of Persons with Disabilities (CRPD), the International Classification of Functioning (ICF), and the European Pillar of Social Rights. These shift us from deficit-based views toward rights-based, participatory understandings of disability and diversity.
This training module empowers adult educators and people with disabilities through creative, digital, and inclusive paths. Rooted in co-design and dignity, IDEA fosters participation, innovation, and autonomy.

6.1.1 Disability, diversity, and inclusive language

Language has always served as a mirror of social attitudes. When it comes to disability, the words we use are not simply descriptive—they shape our understanding of what disability means and how individuals are treated within society. Over time, different models of disability have emerged, each carrying its own linguistic implications.

The **medical model**, dominant throughout the 20th century, views disability as a problem located within the individual, something to be cured or fixed. This model often leads to language that highlights limitations and deficits—terms like "suffers from," "afflicted by," or even "invalid." These expressions centre the person's impairment and often frame them as passive recipients of care.

In contrast, the **social model** reframes disability as the result of barriers—physical, cultural, or attitudinal—that prevent people with impairments from full participation in society. Here, the focus shifts from the individual to the environment, promoting language that acknowledges systemic obstacles and prioritizes access and inclusion.

The most progressive step is the **rights-based model**, as embodied by the UN Convention on the Rights of Persons with Disabilities (CRPD). This model emphasizes autonomy, dignity, and equality, calling for language that respects personal identity, promotes agency, and affirms diversity. It requires us to speak not just about disability, but about people as full citizens with rights.

Disability does not exist in isolation. It intersects with gender, age, ethnicity, culture, and socio-economic background. A woman with a disability may face both ableism and sexism. An older migrant with a disability may encounter ageism and cultural exclusion. Inclusive language must account for these overlapping forms of discrimination by being attentive, respectful, and adaptive.

Finally, educators must understand the difference between **person-first language** ("person with a disability") and **identity-first language** ("disabled person"). Person-first language emphasizes the individual before the condition, aiming to affirm their humanity. However, some communities—such as many in the autistic or Deaf communities—prefer identity-first language, as they see their condition as an integral part of who they are. The best practice is simple: ask individuals how they wish to be addressed, and respect their choice.

Inclusive language is not static—it evolves alongside society. But its core aim remains constant: to build a culture where every person feels recognised, valued, and free to participate fully.

6.2 COMMUNICATING RESPECTFULLY: SPOKEN, WRITTEN, AND NON-VERBAL LANGUAGE

The power of language

Inclusive communication requires conscious choices in the way we speak, write, and behave. It is not only about avoiding offence, but about fostering equity, participation, and dignity in every interaction.

6.2.1 Spoken and written language: choosing inclusive terms

When speaking or writing about people with disabilities, the focus should always be on the person, not the condition, as seen in Chapter 1. Therefore, avoid outdated or negative expressions and focus on person-first language or identity-first language if appropriate—always respecting individual preference.

Problematic: "He suffers from cerebral palsy."
Inclusive: "He has cerebral palsy."

Problematic: "She's wheelchair-bound."
Inclusive: "She uses a wheelchair."

Problematic: "They are mentally retarded."
Inclusive: "They have an intellectual disability."

Use plain, clear language and avoid euphemisms like "differently abled" or "special needs," which can come across as patronising. Instead, use specific, respectful terms that reflect a rights-based view.

6.2.2 Non-verbal communication: respect and autonomy

Non-verbal cues—such as body language, gestures, and tone—**communicate just as much as words**. Respect begins with recognising the **autonomy** of the person you're interacting with. Always address the person directly, even if they are accompanied by a caregiver or interpreter. Make eye contact, unless culturally inappropriate, and avoid infantilising gestures such as speaking in a patronising tone or physically touching someone without consent. Never touch a person's mobility aid (wheelchair, cane, service dog) unless given explicit permission. These are extensions of the person's body and personal space.

6.2.3 Accessibility in communication formats

Inclusivity means ensuring that your communication is accessible to all. For example:

- Provide captions or transcripts for audio/video content.
- Use high-contrast, easy-to-read fonts in written materials.
- Offer materials in multiple formats (digital, large print, easy-to-read, or audio).

In group settings, use microphones when available, avoid talking over others, and allow extra processing time when needed. These practices benefit everyone—not just people with disabilities.

Respectful communication is a habit developed through practice and openness to feedback. Language evolves, but the principle is enduring: people deserve to be addressed with dignity, listened to attentively, and included meaningfully.

6.3 AVOIDING STEREOTYPES AND HARMFUL NARRATIVES

Inclusive communication: conscious choices for equity and dignity

Inclusive communication means more than choosing the right words. It also means avoiding the unconscious reproduction of harmful narratives. Stereotypes—especially those rooted in pity, heroism, or infantilisation—are deeply embedded in how society talks about disability. This section helps educators recognise and dismantle these patterns, replacing them with respectful and empowering alternatives.

6.3.1 Recognising common pitfalls

- **Inspiration Porn**

Coined by disability activist Stella Young, inspiration porn refers to stories or images that frame people with disabilities as "inspiring" simply for living their lives. These narratives reduce people to motivational tools for non-disabled audiences.

Problematic: A headline that reads, "Despite his disability, he goes to work every day!"
Why it's harmful: It suggests that people with disabilities achieving basic life goals is extraordinary, reinforcing the idea that their lives are defined by limitation.
Better alternative: "He shares his experience balancing disability and employment to advocate for accessible workplaces."

- **Pity-based narratives**

Pity frames people with disabilities as objects of sadness or charity. It appeals to emotion rather than rights or equity.

Problematic: "Help this poor girl who can't walk live a normal life."
Why it's harmful: It strips the person of agency and reduces their life to a problem.
Better alternative: "Support her in accessing tools and environments that promote full participation."

- **Infantilisation**

This occurs when adults with disabilities are treated as children—spoken to in a patronising tone, denied autonomy, or publicly praised for basic tasks.

Problematic: Praising an adult with Down syndrome for paying at the supermarket.
Why it's harmful: It undermines competence and reinforces dependency stereotypes.
Better alternative: Treat all adults as adults—acknowledge achievements meaningfully, not condescendingly.

6.3.2 Understanding microaggressions

Microaggressions are everyday slights or insults—often unintended—that reinforce exclusion. They can be verbal, non-verbal, or environmental.
Examples:

- Assuming a wheelchair user needs help without asking.
- Saying "You don't look disabled."
- Speaking to a caregiver instead of the disabled person.

These actions suggest the person is less capable, invisible, or not trustworthy. Over time, microaggressions erode confidence and participation.

6.3.3 Telling empowering stories

Empowering narratives highlight agency, rights, and contribution. They focus on the person's voice, not just their condition.

Checklist for Inclusive Storytelling:

- Ask: Is this story about the person, or about how others feel about them?
- Does the narrative focus on rights, access, and participation?
- Have I consulted or included the perspective of the person involved?
- Am I showing the whole person—not just their disability?

Inclusive stories affirm dignity, celebrate diversity, and promote understanding—not pity or distance. As educators and communicators, we are responsible for shaping the messages that shape the world.

6.3.4 Adapting language across disabilities

Inclusive communication is not one-size-fits-all. Different disabilities require different forms of respect and accuracy. This chapter outlines practical guidance for adapting language to suit various types of disabilities while centring the individual's identity and preferences. The goal is to ensure clarity, dignity, and inclusiveness in every interaction.

1 PHYSICAL DISABILITIES

Avoid terms that imply passivity or tragedy. People with physical disabilities are not "bound" to devices—they use them to enhance independence.

Avoid: "wheelchair-bound," "suffers from," "crippled"
Use: "wheelchair user," "has a physical disability," "uses mobility aids"
Example: Instead of saying, "Despite being confined to a wheelchair, he teaches at a university," say, "He is a university professor who uses a wheelchair."

2 SENSORY DISABILITIES

Use specific and respectful language. Avoid outdated or inaccurate labels.

Avoid: "deaf and dumb," "the blind".
Use: "Deaf person" (if culturally Deaf), "hard of hearing," "blind person," "person with low vision".

Respect preferred modes of communication (e.g. sign language, braille, screen readers) and avoid assuming limitations.

Example: Instead of saying, "He overcame being blind," say, "He navigates his work using assistive technologies."

3 COGNITIVE AND INTELLECTUAL DISABILITIES

Be clear, respectful, and avoid infantilisation. Use plain language where necessary and avoid euphemisms or derogatory terms.

Avoid: "retarded," "slow," "special needs".
Use: "person with an intellectual disability," "person with a cognitive disability".

Focus on strengths and support needs, not perceived deficits. Example: “She needs additional time to process written instructions” is better than “She can’t keep up.”

4 PSYCHOSOCIAL DISABILITIES (MENTAL HEALTH)

Avoid language that blames, pathologises, or sensationalises. Mental health conditions should be treated like any other health issue.

Avoid: "schizo," "mental patient".
Use: "person with a mental health condition," "living with schizophrenia/depression"

Avoid metaphors that stigmatise, such as “this weather is so bipolar.”

5 NEURODIVERGENT INDIVIDUALS (E.G. AUTISM, ADHD)

Terminology in neurodiversity communities varies. Many autistic people prefer identity-first language ("autistic person") over person-first ("person with autism"). Respect expressed preferences.

Avoid: "suffers from autism," "high/low functioning" .
Use: "autistic person," "person on the autism spectrum," "person with ADHD".

Refrain from using functioning labels, which can be misleading and reductive. Instead, talk about support needs or communication styles.

6.3.5 Ableist metaphors and euphemisms

Certain everyday phrases carry ableist assumptions and should be avoided.

Avoid: "turning a blind eye," "falling on deaf ears," "crazy idea," "lame excuse".
Use: "ignoring intentionally," "not acknowledged," "unexpected idea," "weak justification".

Euphemisms like "differently abled" or "handicapable" may sound positive but often obscure real issues and can be seen as patronising. It is better to use direct, respectful terms grounded in lived experience.

Inclusive language must always be context-sensitive. The best guideline is to ask individuals how they identify and respect their choice. Language, when adapted thoughtfully, becomes a bridge—not a barrier—to full inclusion.

6.4 INCLUSIVE PRACTICE IN EDUCATION AND COMMUNITY SETTINGS

Inclusive learning environments

Educators and facilitators play a key role in building environments where all learners feel valued and empowered. Inclusive communication is one of the most impactful tools they can use to create spaces where participation is possible for everyone, including people with disabilities. This chapter focuses on practical strategies and guiding principles to foster inclusive learning and community settings.

6.4.1 Creating inclusive learning environments

An inclusive setting begins with intention and preparation. Consider the physical space, communication styles, materials, and attitudes.
Ask yourself:

- Can everyone access the room, seating, and materials?
- Are there alternative formats (e.g. easy-to-read, large print, audio)?
- Do I allow enough time for questions and processing?

Foster a culture of respect and belonging. Use person-centred language, allow for diverse ways of participation (verbal, written, visual), and avoid singling out individuals based on difference.
Example: Instead of asking, "Can you hear me well, or do you need help?" publicly, offer multiple ways to follow content (e.g. captioning or notes) to all participants.

TOOLS AND STRATEGIES FOR EDUCATORS

- **Universal Design for Learning (UDL)**: Plan lessons that provide multiple means of engagement, representation, and expression for all learners.
- **Clear Communication**: Use plain language, avoid jargon, and check for understanding regularly.
- **Flexible Formats**: Offer content in visual, auditory, and tactile formats. Encourage the use of assistive technologies.
- **Feedback Loops**: Create space for students to give feedback on accessibility and communication. Adjust accordingly.

Inclusive education is not about treating everyone the same—it is about **adapting to meet diverse needs equitably**.

6.4.2 Co-design and participation

The IDEA Project promotes Co-design as a pillar of inclusion. This means involving people with disabilities not only as beneficiaries but as **co-creators o**f learning environments, services, and materials. Co-design leads to solutions that are more responsive, respectful, and innovative.

How to apply co-design in practice:

- Invite learners with disabilities to give input from the planning phase.
- Test materials and formats with diverse users before finalising them.
- Document changes made in response to feedback, and communicate them transparently.

Inclusive practice is ongoing. It requires reflection, consultation, and adaptation. When implemented authentically, it transforms not just the learning environment—but the attitudes, expectations, and opportunities of everyone within it.

6.5 FROM AWARENESS TO ACTION: FINAL GUIDANCE AND RESOURCES

Inclusive communication

Inclusive communication is a lifelong practice. It starts with awareness but becomes meaningful only when applied consistently in daily behaviour, education, policy, and interpersonal relationships. This closing chapter offers a concise summary of the key principles covered throughout the module, a practical checklist for immediate use, and resources to support ongoing learning.

6.5.1 Core principles of inclusive communicatios

- Respect the person first – Always acknowledge the person's humanity before their condition or identity.
- Adapt to context – Different situations and individuals may require different language choices. When in doubt, ask.
- Use clear, accurate, and specific language – Avoid euphemisms, jargon, and generalisations.
- Avoid harmful narratives – Reject stereotypes such as pity, heroism, or infantilisation.
- Make communication accessible – Use formats, language, and tools that include everyone.
- Listen actively – Let the voices of people with disabilities guide your approach and adjustments.

6.5.2 Daily use checklist

- Have I referred to people using the terminology they prefer (e.g. person-first or identity-first)?
- Am I avoiding ableist terms and expressions (e.g. "crazy," "lame," "blind to," "confined to a wheelchair")?

- Are my materials available in accessible formats (e.g. large print, plain language, digital screen-reader compatible)?
- Did I provide alternatives for audiovisual content (e.g. captions, transcripts, or audio description)?
- Have I checked that visual presentations use high contrast and clear fonts?
- Am I speaking directly to the person and not to their assistant or interpreter?
- Did I ask permission before helping, touching mobility aids, or making assumptions about needs?
- Have I included diverse examples and avoided stereotypes or tokenism in my communication?
- Am I using a respectful tone, without condescension or pity?
- Do I invite and welcome feedback from participants about how inclusive or accessible my communication is?

6.5.3 Sustaining an inclusive mindset

Building an inclusive mindset means remaining **open to change**, **staying curious,** and **correcting course** when necessary. Mistakes will happen—what matters is the willingness to learn and improve. Inclusive communication is not a final goal but an evolving responsibility, especially for educators and community leaders.

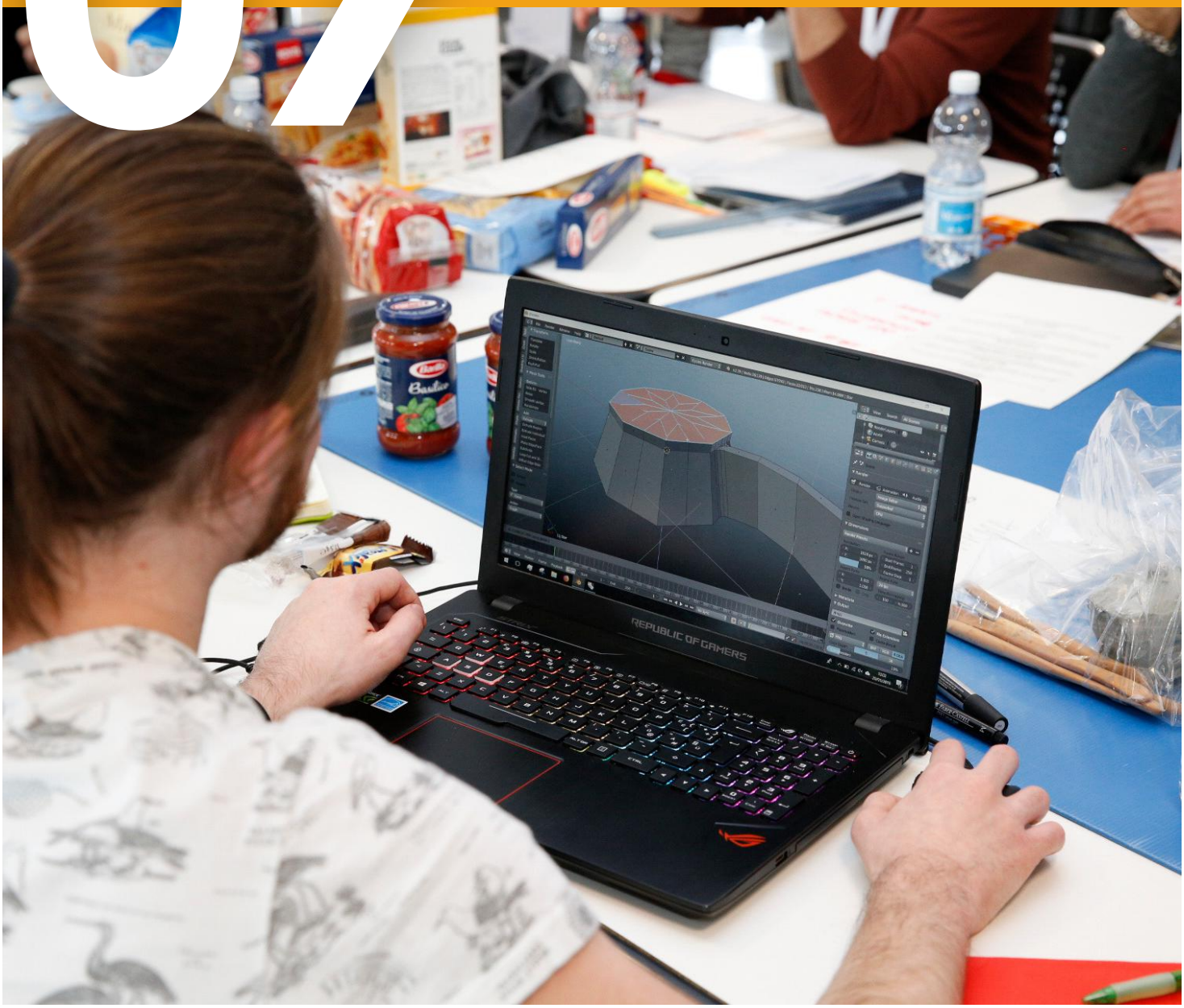
Encourage institutional shifts by:

- Including inclusive language in staff training.
- Auditing materials for accessibility.
- Involving people with disabilities in planning and evaluation.
- Formalising inclusive practices in policies and codes of conduct.

To conclude, inclusive communication is not about perfection. It is about **progress, presence, and respect.** As you take these tools into your work, remember: the words we choose can open doors, change minds, and reshape what inclusion looks like in our communities.

07

THE PITCH AS A TOOL FOR INCLUSIVE PROTOTYPING



07

COMMUNICATING IDEAS EFFECTIVELY AND ACCESSIBLY

This module presents the pitch as an essential tool for communicating inclusive design ideas. It outlines methods for crafting persuasive, accessible presentations, equipping learners to clearly express their prototypes' value to different audiences and stakeholders.

The learning objective of this module is to equip participants with the ability to craft and deliver clear, persuasive, and accessible presentations (pitches). It emphasizes narrative prototyping as a means to communicate inclusive design ideas effectively and engage diverse audiences and stakeholders.

7.1 PROTOTYPING AS A NARRATIVE

From story to validation

In the world of co-design and social innovation, the concept of prototyping goes far beyond building physical objects or developing technological solutions. Prototyping also means exploring and shaping the meanings, relationships, and narratives that revolve around a need. In this sense, the pitch represents a form of narrative, relational, and strategic prototyping, playing a central role in participatory and inclusive processes.

Within an inclusive co-design journey, the pitch is not just an effective communication tool or a well-packaged presentation: it is a project validation device.

7.1.1 What it means to prepare a pitch

Preparing a pitch means facing challenges that go well beyond simply "telling a story well." It means:

TESTING AN IDEA

Under near-real conditions, simulating a decision-making context where listeners must understand, assess, and possibly support or engage with it.

DEFINING BOUNDARIES

Clarifying application areas, involved resources, key actors, expected and desired impacts.

EXPLORING STRENGTHS AND WEAKNESSES

Not only from a technical or operational perspective, but also in terms of desirability, sustainability, and the ability to create value for multiple stakeholders.

LEARNING TO COMMUNICATE THE IDEA

To those who can help make it a reality—be it institutional stakeholders, potential partners, community members, end users, or simply curious and interested individuals.

The pitch thus acts as a narrative stress test—a check of whether the idea can be understood, shared, and desired. If an idea, especially in its early or abstract stages, cannot be conveyed clearly and convincingly, it likely contains hidden or overlooked issues. This may indicate the need for further reflection, listening, clarification, or revision.
Therefore, the pitch is both a strategic filter and an evolutionary tool: not just to "sell" an idea, but to better understand it, share it, and grow it through dialogue. If the story doesn't work, perhaps the idea doesn't either. But if we manage to build an authentic, accessible, and solid narrative, it means the idea is taking shape and ready to begin its journey.

7.1.2 What is a pitch?

The term *pitch* comes from the Anglo-Saxon entrepreneurial world, where it refers to a brief, sharp, and well-structured speech designed to grab the attention of potential investors or stakeholders.

In our inclusive co-design journey, we propose it as a key tool of narrative and strategic prototyping. It's not just an exercise in communication—it is a fundamental design step that helps the group test an idea, clarify its contours, examine its internal coherence, and strengthen its credibility.

The pitch allows a project to be told effectively to those who could help make it real: stakeholders, partners, communities, institutions.

A good pitch is:

CLEAR it conveys the fundamental ideas with simplicity and accessibility;

CONCISE it gets straight to the point, respecting the listener's time and attention;

ENGAGING it sparks curiosity, stimulates interest, and invites participation;

For a pitch to be effective, it should answer key questions, such as:

- *What is the problem we are addressing, and why is it relevant?*
- *What is our concrete value proposition?*
- *What benefits does it generate and for whom?*
- *How will the project be sustained over time?*
- *What impact do we envision, and how will we evaluate it?*

Proposing a pitch means offering a low-threshold opportunity for discussion, where the group can practice presenting the project, receive constructive feedback, test reactions, and—if needed—go back and revise the idea.

Thus, the pitch is a tool for early validation: if the idea can't be told convincingly, perhaps it needs to be reviewed or refined. Especially in contexts promoting accessibility, equity, and empowerment, the pitch is not about selling—but about connecting.

It builds bridges between people, experiences, and visions. It's an accelerator of meaning and a training ground for collaboration.

7.2 ARISTOTLE, THE (SORT OF) PIONEER OF THE PITCH

Ethos, Pathos, Logos—and beyond: the modern pitch

This section explores the role of the pitch as both a communication device and a co-design tool, tracing its roots from Aristotelian rhetoric to contemporary practices in inclusive innovation.

We can say—half-jokingly but also quite seriously—that Aristotle was the first to codify the rules of an effective pitch, over two thousand years ago. In his Rhetoric, one of the foundational texts of communication theory, the Greek philosopher identified three essential pillars of every persuasive speech: ethos, pathos, and logos.

Ethos: the speaker's credibility

It is built through coherence, authority, and the integrity of both message and messenger. If the audience perceives the speaker as competent, honest, and trustworthy, they are more likely to listen and accept the proposal.

Pathos: the ability to evoke emotions

This makes the speech memorable and creates empathic connection with the audience. Pathos is not manipulation—it's about attention to people, their needs, and aspirations. It makes an idea not only understandable, but felt.

Logos: the strength of logical argumentation

This is the rational component: data, examples, coherent structures, demonstrations. Without logos, a speech may be emotional but hollow. With good logos, it becomes solid and convincing.

To these classical elements, we can add a modern one: **the Halo Effect.**
This concept from social psychology describes the tendency to form an overall positive impression based on an initial favorable perception. In practice: if the first impression is good, everything else is seen in a better light. This effect can significantly boost the impact of a pitch—if managed with awareness and responsibility.
Together, ethos, pathos, logos, and the halo effect create the conditions for a powerful pitch: credible, engaging, structured, and memorable. These are the four ingredients of a story that doesn't just describe an idea, but brings it to life, makes it desirable, and invites others to take part.
It's no coincidence that these Aristotelian concepts are still taught today in training programs on leadership, communication, and innovation—they're far from outdated.

7.3 THE PITCH AS A NARRATIVE PROTOTYPE IN CO-DESIGN

From presentation to prototype

In the context of inclusive co-design, the pitch plays a role far beyond that of a simple presentation: it becomes a true narrative prototype as a tool for exploration, mediation, and transformation. In other words, it does not merely "tell an idea" but helps build it through dialogue with others.
Its stages closely align with the core phases of design thinking and user experience research, because—just like a physical or digital prototype—the pitch enables iteration, testing, learning, and improvement.

7.3.2 What the pitch enables

One of the most common mistakes in pitching is to start with the solution before clarifying the problem. This can make the message feel inconsistent or unconvincing. It's essential to begin with the need: describe the context, highlight the urgency or relevance of the challenge at hand. Only then will the solution appear logical, necessary, and well-motivated.
A well-crafted pitch within a collaborative and inclusive process is not a one-way declaration, but a relational and strategic tool. It allows you to:

Simplify complexity

Turning design insights and systemic visions into a story that's understandable even for those without technical or specialist backgrounds. This is especially important when working with diverse communities or stakeholders from different sectors.

Test the idea with others

Thanks to its dialogical nature. The pitch is a form of prototyping that feeds on interaction: as it is said, you observe reactions, gather signals, and collect feedback. It becomes a way to "test the idea in the field," even at an early stage.

Encourage reflection and revision

Because the pitch is not a final step, but a checkpoint. It is open, iterative, adaptable by nature: it can (and should) be rethought, enriched, and adjusted depending on the context and audience. It is a dynamic narrative form, not a static one.

Facilitate decision-making

By quickly surfacing a project's challenges and opportunities. Often, it's precisely in trying to tell an idea that gaps, fragilities or, in contrast, powerful insights become apparent.

7.3.3 The pitch as an educational and transformative tool in the final stages of a project

Using the pitch in the final stages of a co-design process is not just a communication choice: it is an **educational, strategic,** and profoundly **transformative** decision. At this point, those involved in its construction are not simply "presenting" a project—they are reassembling it, interpreting it, internalizing it, and relaunching it in a new, shared, and action-oriented light.

Building a pitch involves key **learning experiences** that go far beyond public speaking or effective communication. It is a true exercise in systemic thinking, empathetic design, and collaborative storytelling.

Through this process, participants learn to:

- Think in terms of models, identifying connections between needs, opportunities, actors, and solutions. The pitch forces a shift from details to an overall vision, seeking coherence and highlighting what gives strength and direction to the entire project.

- Select, organize, and visualize information clearly and concisely.This often involves tools such as storyboards, canvases, logic diagrams, or infographics to translate complexity into accessible, communicable visual elements.

- Adapt language, codes, and tones, developing a real ability to step into others' shoes—be they stakeholders, citizens, administrators, partners, funders, or communities.
  It is in this phase that the idea stops being "owned by those who created it" and starts becoming for those who need it.

- Build a collective story, where individual voices find a shared synthesis.The pitch becomes a cohesive tool, strengthening the group's common vision, project identity, and presenting it as the result of collaborative work.

7.4 FROM PERSONAL TO COLLECTIVE: WHEN IDEAS BECOME SHARED PROJECTS

From idea to collective action

In inclusive co-design, the pitch transforms individual ideas into collective projects, making them visible, actionable, and open to feedback, allies, and co-creators. Designed thoughtfully, it becomes a space for dialogue, learning, and shared transformation rather than a final product.

In contexts such as social entrepreneurship, civic education, active citizenship training, or community activation, the pitch often marks a symbolic and practical threshold: the moment when individual intuitions, rough proposals, or still-unclear desires begin to transform into **structured, credible, and actionable projects.**

It's the moment when:

- A project intention is publicly declared,
- Ideas are open to constructive feedback,
- The door is opened to new allies, supporters, and co-protagonists of change.

In this sense, the **pitch does not conclude the journey**—it relaunches it, offering visibility, narrative strength, and forward momentum. That's why it must be designed with care, active listening, and awareness—not as a final product, but as a space for **learning** and **transformation**.

7.4.1 Building an inclusive pitch: tools, methods, and considerations

Within an inclusive co-design workshop, developing the pitch is much more than a closing phase. It is a key moment when the group consolidates its work, makes its proposal visible, and engages with others in an open, accessible, and generative way.

Designing an inclusive pitch means ensuring that all participants can contribute and understand it—regardless of their background, experience, abilities, or technical skills.

7.4.2 Useful tools to support the process

PITCH CANVAS

A model consisting of 12 guiding questions to be completed by the group. These questions span from problem definition to value proposition, sustainability, and stakeholder engagement.

➔ The canvas helps surface diverse perspectives and build a coherent, shared narrative.

VISUAL STORYBOARD

A sequence of 6–9 vignettes or scenes that visually represent the project, its actors, and its impacts.

➔ Ideal for heterogeneous groups, it supports communication even in the presence of linguistic or cognitive barriers.

COLLECTIVE, ACCESSIBLE VIDEO PITCH

A short video produced by the group that presents the project in a direct and engaging way. It should include: clear, synchronized subtitles; possible interpretation in sign language (LIS) or visual symbols; an empathic and understandable narrative tone.

➔ The video broadens the audience reach and amplifies the group's voices.

MIRROR FEEDBACK SESSION

After the presentation, other groups provide observations, questions, and suggestions following a respectful, constructive structure.

➔ This stage supports peer learning and allows the pitch to be reviewed and improved.

TIPS FOR A TRULY INCLUSIVE PITCH

- Use simple, clear, respectful language, avoiding jargon or exclusive expressions.
- Integrate multiple communication codes: words, images, drawings, symbols, concept maps.
- Allow for varied expressive formats (oral, written, visual, performative) to highlight everyone's talents and preferences.
- Verify understanding with people of different backgrounds, ages, and abilities.
- Ask: "Is it clear to you?", "What do you think?", "What struck you or doesn't convince you?".
- Introduce self-evaluation and group reflection moments, where participants assess the work, identify learnings, and suggest improvements.

In conclusion, building an inclusive pitch means creating the conditions for every voice to contribute, and for every listener to understand, evaluate, and potentially embrace the project.
A pitch designed this way is not only effective: it is equitable, generative, and transformative.

7.4.3 What should social impact-oriented pitch include?

A **social impact pitch** is much more than a well-crafted presentation: it is a tool to tell, validate, and share a project that aims to generate change by **responding to real needs and involving communities, partners, and stakeholders.**

7.4.4 - 13 elements of a pitch

In conclusion, building an inclusive pitch means creating the conditions for every voice to contribute, and for every listener to understand, evaluate, and potentially embrace the project.

→ 1. Introduction

Present the project's name, its origin, and the mission that drives it. In a few sentences, explain where the idea comes from and what it aims to change or improve.

→ 2. The Problem

Explain what need you are addressing. Who is affected? How was the problem identified? Show that this is not an abstract intuition, but a response grounded

→ 3. The Solution

Describe what you are proposing clearly and concretely. How was the proposal co-designed with users, citizens, or partners?

→ 4. How it works

Using text, drawings, diagrams, or slides, visualize how the project functions: its phases, tools, and communication channels. → This is essential for making the concept understandable, especially in inclusive settings.

→ 5. Added value

What makes your proposal unique? Is it accessible, replicable, sustainable? How is it different from what already exists?

→ 6.Beneficiaries

Who is it for? What groups, communities, or individuals will benefit? What concrete change do you expect to generate?

→ 7. Economic Model

How will the project sustain itself over time? What economic resources, partnerships, or revenue streams are involved? (This point is less relevant if the pitch is used primarily for project testing.)

→ 8. State of progress

What have you already accomplished? Are there tests, prototypes, collaborations, or validations you can document?

→ 9.The Team

Who are you? What skills do you bring to the project? What competencies are missing but needed? (This point is also less critical for early-stage testing.)

→ 10. Needed Resources

What do you need to take the first step—people, materials, contacts, tools? (Again, less essential in early testing.)

→ 11. Requested Investments

How much are you asking for, and for what purpose? How will these resources ensure impact and sustainability? (Not crucial for early-stage pitching.)

→ 12.Risks and Obstacles

What could go wrong? How are you preparing to manage limitations, risks, or unforeseen events?

→ 13. Roadmap

What are the next steps? How will you track the project's progress and results?

7.5 PROJECT TESTING PITCH

Exploring pitching as a flexible tool

When it comes to pitching, it's important to remember that not all elements are always necessary, especially if the goal is to test an idea.
In early phases, the pitch is used to clarify the concept, gather feedback, and decide whether to move forward. In later phases, it becomes a more detailed and structured presentation, useful for securing investment or formal partnerships.

7.5.1 What's Essential in a project testing pitch

Some elements are truly essential for testing purposes:

- A clear and concise introduction that explains the project's origin and mission;
- A well-defined problem, grounded in real needs verified through direct listening;
- A concrete and co-designed solution, developed with users, citizens, or partners;
- An explanation of how the project works, with phases, tools, and channels visualized through diagrams or slides;
- A focus on the project's unique value, accessibility, and sustainability;
- Clear identification of beneficiaries and the expected social or environmental impact;
- A snapshot of the current state of development;
- Awareness of risks and challenges, and how they will be managed;
- A realistic roadmap with next steps and methods for monitoring results.

7.5.2 What can be deferred

Some elements can be developed later as the project evolves:

- The economic model may come once the idea has been validated;
- The detailed team structure and required resources can be outlined further along;
- Investment requests are more typical of mature pitches aimed at funders and are not crucial during the testing phase.

Conclusion

The **pitch** is not a final goal, but a fundamental step in a **broader journey.** It is a lightweight yet powerful narrative prototype that helps:

- Sharpen and clarify ideas in a more precise and shared way;
- Test the proposal's strength and validity through feedback and interaction;
- Build strategic alliances by connecting people, skills, and resources;
- Reinforce internal project coherence by identifying strengths and areas for improvement.

In a world increasingly demanding accessibility, clarity, and inclusion, the pitch proves to be a valuable tool for deep understanding, energy activation, and defining shared directions.

Making a pitch together means **taking care** not only of an **idea**, but also of the **words** that tell it—and of the **people** who can help it grow and come to life.

In other words, pitching together is the beginning of **building community, participation, and shared social innovation.**

08

A MANAGEMENT MODEL FOR THE ORGANIZATION OF INCLUSIVE CO-DESIGN EVENTS

08

STRUCTURING AND FACILITATING INCLUSIVE COLLABORATIVE PROCESSES

This module enables participants to develop competences in planning, managing, and evaluating inclusive co-design events. It focuses on structuring collaborative processes, stakeholder engagement, accessibility considerations, and the documentation of outcomes to achieve professional and social impact.

8.1 MODEL FOR INCLUSIVE CO-DESIGN EVENTS

A management model for the organization of inclusive co-design events

Imagine a place where people of different ages, abilities, backgrounds, skills, and stories come together to build concrete solutions to real problems. A place where design is not reserved for experts, but becomes a shared, accessible, and meaningful experience. Organizing co-design events oriented towards inclusion means exactly this: creating spaces and processes where everyone can contribute, feeling heard, recognized, and valued.

But making all this possible is far from simple. It requires attention, care, method. It means knowing how to hold together creativity and structure, empathy and strategy, vision and detail. It also means managing complexity, coordinating very different actors, and facilitating dialogue between expectations that do not always align.

In this context, the experience developed by Hackability — an organization that for years has promoted participatory design as a tool for accessibility and social innovation — offers a solid and inspiring starting point.

From this body of practices and knowledge comes the model we present in this document: a management proposal for co-design events intended to support those working in local communities — public bodies, associations, schools, cooperatives, informal groups — in building authentic, inclusive, and generative participatory processes.

This is not a magic formula, nor a protocol to be followed to the letter. On the contrary, the model is intended as a flexible, adaptable tool, able to respond to different contexts, needs, and objectives. What holds it together is a clear value framework: inclusion, equity, sustainability.

The heart of the proposal revolves around **three strategic axes**:

1 PARTICIPATORY AND ACCESSIBLE DESIGN

Here, accessibility is not an add-on to be introduced later, but a guiding principle that runs through everything: from physical spaces to materials, from languages used to time management. Every phase of the process — from initial listening to idea generation — is designed to welcome and value the diversity of participants.

2 METHODOLOGICAL STRUCTURING AND FACILITATION

Supporting the events is the IDEA kit, which offers practical tools to guide the work. But the real value lies in the role of facilitators: not mere "moderators," but enablers of context, able to create the conditions for authentic participation, where everyone feels free to express themselves and contribute.

3 EVALUATION, SUSTAINABILITY, AND IMPACT

Every co-design process must be able to leave traces: in participants, in local communities, in the resulting solutions. For this reason, the model provides tools to monitor and assess both concrete results and processes, with careful attention to group empowerment, the quality of the experience, and the possibility of replicating or transferring what has emerged. In this vision, sustainability is also — and above all — relational and social.

In summary, this model aims to offer a compass for those who want to design with others, not for others. A compass that helps navigate complex contexts, without attempting to standardize everything, but offering an adaptive framework within which shared, innovative, and impactful solutions can be built.

8.1.1 Context analysis and stakeholder mapping

Every territory has its own voice — sometimes clear and direct, other times quieter, almost imperceptible. Some people pick up on it at first glance, reading between the lines of data and documents; others perceive it slowly, walking the streets, stepping into cafés, exchanging a few words with locals.

To organize a co-design event that is truly **inclusive** and **generative**, that voice must be learned and listened to. Everything starts here: from **the desire to understand the context**, not in the abstract but for what it truly is — with its beauty and contradictions, its existing networks and gaps to fill, its sometimes invisible barriers and its more or less explicit resources.

This is not work that can be done alone at a desk: it requires **openness**, **time**, and **curiosity**. It means embarking on a journey, even metaphorically, through the stories and experiences of those who live in that territory every day.

In parallel, while beginning to sense the atmosphere and listen to the silences, a stakeholder map is slowly built. Not a rigid list, but a moving constellation of people, organizations, groups, networks, and intuitions.

Some are visible, institutional, already "inside" processes; others are discovered along the way: an informal association working on disability, a local business with a focus on social issues, a parents' group meeting weekly at a community center, a social carpentry workshop that becomes a point of reference for those seeking skills and inclusion.

It often happens that those who initially seemed marginal turn out to be essential. At that point, the work shifts: it's no longer about "involving," but about recognizing and valuing. Listening to life stories, gathering narratives, letting the neighborhood be described by those who know it well. Perceiving not only explicit needs but also hidden ones. And along with these, seeing unexpected skills emerge: the volunteer skilled with a lathe, the mother organizing fundraisers, the young man who knows accessible routes because he experiences them firsthand.

Co-design begins already in this phase. It is not a preliminary step but an integral part of the process. Because when **we learn to listen and observe carefully**, we discover that the context is already full of distributed knowledge, of "available energies" ready to be activated: places, materials, tools, but above all people eager to act, share, participate.

All this does not produce only useful information. It produces **relationships** of **trust**, **social legitimacy**, a s**ense of belonging.** And it reduces the ever-present risk that someone is left out, that something is taken for granted, that decisions are made too quickly on behalf of others.

An example? In a small mountain town, an event was being planned around mobility aids. At first, the team had in mind a set of "institutional" stakeholders. Then, as they explored the area, other realities emerged: a social carpentry workshop with valuable technical skills, a parents' association fighting for school inclusion for years, a network of informal caregivers quietly holding together entire parts of the community.

They were not written down anywhere, but they were there. And when they were involved, the project changed pace. It became something deeper, more shared, more real.

8.1.2 Definition of the objectives of the co-design initiative

Every co-design initiative starts from a drive, a shared intention: to create something useful, meaningful, transformative. But for this initial energy to translate into an effective and inclusive process, it is essential to begin with a clear and participatory definition of objectives.
It is not just about knowing what you want to do, but about clarifying why you are doing it, with whom, and for whom. Objectives represent the project's compass: they guide decisions, facilitate alignment among different actors, and make it possible to assess, later, whether and to what extent value has been generated.
For this reason, their definition cannot be imposed from above. It must emerge from an open and dialogic process, actively involving all stakeholders:

- **direct participants**, such as end users, persons with disabilities, active citizens, makers, designers, artisans, and technologists;
- **promoting entities**, such as public institutions, third-sector organizations, schools, and social enterprises;
- **facilitators,** i.e., mediation and support figures capable of translating needs into proposals;
- and finally **external stakeholders**, such as policy makers, funders, representatives of local communities or trade associations.

The aim is not merely to collect opinions, but to build a shared vision, composed of common language, concrete objectives, and recognized values. This requires time, listening, care, and appropriate tools. Among the most useful tools are:

INTRODUCTORY WORKSHOPS

Through participatory techniques such as World Café or Metaplan, thet allow motivations, expectations, and priorities to emerge.

OBJECTIVE CANVASES

Tools (i.e. visual frameworks) that help systematize the various elements at play:

- the mission (why the project exists);
- the vision (the desired medium- to long-term change);
- SMART objectives (specific, measurable, achievable, realistic, time-bound);
- guiding values (inclusion, self-determination, collaboration, sustainability...).

SEMI-STRUCTURED INTERVIEWS

Interviews to key stakeholders to gather perceptions, needs, constraints, and opportunities. Here too, it is important to adopt accessible methods, adapted to different levels of communication (visual, narrative, mediated).

The objectives emerging from this process must be realistic, verifiable, and consistent with the identity of the initiative.
They may concern skill development, the inclusion of marginalized individuals, the co-design of accessible solutions, the building of collaborative networks, or the activation of new ways of living and inhabiting the community.

A concrete example can clarify this: *"The objective of the initiative is to co-design and prototype low-cost assistive devices during a three-day collaborative event, with the direct involvement of persons with disabilities, makers, and students. The intention is not only to develop concrete solutions but also to promote the de-stigmatization of disability and raise awareness within the local community, strengthening proximity networks."*

In an objective like this, operational, educational, cultural, and relational dimensions are intertwined. And it is precisely this complexity, if well articulated, that allows the general objective to be broken down into sub-objectives and indicators that will guide the entire process, from planning to impact assessment.

Defining objectives in a participatory way means laying the groundwork for a solid, inclusive, and credible project.

But it also means restoring meaning and motivation to those who participate, transforming a co-design event into an experience capable of activating energies, connections, and change.

8.2 WORKSHOP PLANNING

From vision to action

Once the context is defined, opportunities analyzed, and resources mapped, it is time to translate the design intentions into a concrete and shared action plan. Workshop planning marks the transition from vision to practice: this is where activities are structured, roles clarified, timelines defined, and the most suitable operational tools identified. This section guides the translation of design intentions into structured, participatory, and flexible workshops.

The primary objective of this phase is to build a clear, participatory, and flexible pathway that guides the working group—and, more broadly, the design community—toward the achievement of shared objectives.

Special attention should be given to the use of the **IDEA Toolkit** (Design Toolkit for Accessible Co-Design), a set of tools and guidelines designed to facilitate accessible and replicable co-design across diverse contexts.

1 OPERATIONAL PHASES, DIVIDED INTO KEY MOMENTS

Typical examples include:

- Needs analysis and challenge collection.
- Collaborative ideation and concept development.
- Prototyping (digital, craft-based, conceptual).
- Testing and validation with end users.
- Iteration and finalization (if needed).

2 CLEARLY DEFINED ROLES AND RESPONSIBILITIES

It is essential to specify who does what, and with what degree of autonomy and responsibility. Key figures may include:

- Process facilitators.
- Expert users (caregivers, persons with disabilities, service providers).
- Technicians and makers (designers, engineers, craftspeople, developers).
- Documenters and communicators, ensuring visibility and traceability.

3 OPERATIONAL AND DIGITAL TOOLS FOR ORGANIZATION

Use agile, accessible, and versatile collaborative tools to plan and monitor the project:

- Visual roadmaps, printable or interactive (e.g., timelines with milestones and deadlines).
- Activity planners (Excel sheets, Trello boards, Notion or Miro workspaces).
- Role-responsibility charts, to visualize the project structure dynamically.

4 RESOURCES AND MILESTONES

The plan must also take into account material and immaterial resources (budget, spaces, equipment, time availability) and define verifiable intermediate milestones.
Example:
"By the end of the morning, at least three co-designed assistive device concepts must be presented, with accompanying sketches and preliminary feasibility assessments."

The strength of the plan lies in its ability to be co-created, adaptable, and transparent, always keeping active participation at the center of the process.

8.2.1 Identification of necessary resources

In an inclusive co-design process, speaking of "**resources**" does not simply mean doing the math or filling out budget tables. It means, first of all, recognizing that every project is born within a concrete context, made up of people, spaces, skills, tools and — why not — limitations. And that every project, in order to truly work, must start from what is already there, from what can be activated together, from what people are willing to share.

In the case of Hackability or similar initiatives, this phase takes on even greater importance. The question is not limited to:

how much money do we have? But also: *who can lend a hand? What skills are already available? What tools can we use without needing to purchase them? Who can offer time, ideas, energy?*

For this reason, resource mapping is not a secondary step to be addressed at the end of planning. On the contrary, it is one of the first steps: the one that allows us to understand whether the idea is realistic, how it can be implemented, and what alliances can be built to make it possible.

In practice, it is useful to think of resources in at least three major categories.

Human resources

These are the people, with their wealth of skills, experience, and availability. This includes facilitators, designers, makers, expert users, but also students, volunteers, educators, and communication assistants. Everyone brings something: know-how, vision, sensitivity, energy. And every contribution must be acknowledged, valued, and connected with others.

Technical and material resources

These refer to the tools and spaces needed to carry out the activities concretely. 3D printers, laser cutters, mobile furnishings, consumables such as cardboard, fabrics, electronic components. But also: a well-equipped workshop, a room for workshops, an area for taking breaks and informal chats. Spaces and tools are not neutral: they shape the kind of experience participants will have.

Economic and financial resources

Even in a participatory project, costs exist. Funds are needed for materials, travel, accessibility, and potentially to cover fees. Sometimes public funding is used; other times sponsors are involved, crowdfunding campaigns organized, or partners engaged to cover certain costs directly. It is important that financial resources are seen not only as a problem to solve but also as an opportunity to generate shared value.

To manage this complexity, there are simple but essential tools.

A **shared budget planner**, for example, allows all partners to clearly see the financial situation at every stage. A **resource sheet**, listing what is needed, who will provide it, and at what cost, enables transparency and helps build an overall vision. A **cost coverage** grid helps identify where synergies can be activated: a local authority can provide space, an association can provide volunteers, a school can involve students.

But there is an aspect that often goes unnoticed and yet makes a difference: this phase is not only technical; it is deeply relational. It serves to build trust, reveal invisible resources (such as someone's time or willingness to share expertise), and make every actor feel part of a collective endeavor. Understanding "who can contribute what" also means fostering a sense of shared responsibility, belonging, and reciprocity.

An example? In a Hackability event, thanks to careful resource mapping, it emerged that a local association could offer a carpentry workshop with professional tools.

This had not been foreseen initially, but that resource proved central: it allowed the construction of high-quality prototypes and involved local artisans who, until then, had remained on the sidelines. Without that connection, the project would have had less impact.

In short, identifying resources is not just an organizational step. It is a generative moment that can reveal the hidden potential of territory and its people. And it is precisely this ability to see and activate what already exists that determines much of the sustainability — and effectiveness — of a co-design project.

8.2.2 Identification and monitoring of outputs

Once the path has been defined and the objectives clarified, another crucial phase begins: understanding what concrete results we want (and can) achieve, and how to keep track of them. Here, the distinction between outcomes and outputs comes into play.

Outcomes represent the medium- to long-term changes that a project can generate: an increase in autonomy, an activated network of relationships, greater awareness among participants. Outputs, on the other hand, are the tangible and verifiable results that emerge during the project: prototypes created, materials produced, documents written, communications delivered.

Why is monitoring outputs so important? For at least three reasons:

- To verify the project's progress in relation to the objectives set at the start.
- To motivate participants, by giving visibility to partial results and acknowledging the value of the work done.
- To build a project memory, useful both for external communication and for scaling the model.

To collect and valorize these outputs, it is very useful to complement the operational kit with a **collaborative logbook**. This could be a simple shared online document — a wiki page, a Google Doc, a Notion section — where participants can note observations, insights, difficulties, and changes in direction. This tool is valuable because it:

- increases transparency;
- makes informal learning visible, which is often overlooked;
- facilitates asynchronous work and continuous documentation, day by day.

In parallel, it is helpful to start building a Portfolio of prototypes and materials: a kind of "visual diary" that collects everything produced — sketches, drawings, photographs, videos, tutorials, educational materials. This archive can be published on an accessible platform (such as Padlet, Behance, or a dedicated WordPress site) and becomes an effective tool for:

- telling the project's story to the outside world;
- training new teams;
- giving visibility to the solutions developed and making them replicable elsewhere.

Some examples of concrete outputs include:

PHYSICAL PROTOTYPES	customized assistive devices, interaction tools, orthotics made with 3D printing, adaptive interfaces for digital or physical environments.
EDUCATIONAL AND TRAINING MATERIALS	worksheets, infographics, tutorials, explanatory videos created during workshops or for internal team training.
GUIDELINES AND USER MANUALS	documents providing instructions for use, maintenance, and adaptation of designed products or services.
SUMMARY REPORTS	overviews of work phases, synthesis of co-design sessions, participant feedback and evaluations.
COMMUNICATION CONTENT	social media posts, articles, brochures, posters, short videos—used to share the experience and raise public awareness.

In summary, workshop design and output monitoring are not just operational tasks. They are spaces of care, where meaning is built, cohesion is strengthened, and the possibility is nurtured of transforming the present into something more accessible, fair, and shared.

8.2.3 Detailed action planning

For a co-design event to be truly effective, it is essential to support each phase with careful and shared planning of the actions to be undertaken.

Clarity in the breakdown of activities, accompanied by a well-thought-out schedule based on priorities, expected impact, and actual availability, makes it possible to create an operational framework that is stable yet dynamic.

Practical tools such as shared to-do lists, weekly plans, or visual timelines can be extremely useful to ensure coordination among team members and to keep motivation high. In particular, the **Gantt chart** is a valuable tool for intuitively representing the timeline of activities, highlighting their duration and interdependencies.

Whether using a digital version (Google Sheets, Asana, or Monday.com) or an analog version (such as a whiteboard with post-its), the important thing is to make the operational plan visible and shared.

A practical example could involve an ideation phase from 1 to 10 March, followed by two weeks dedicated to prototyping, then moving on to testing and evaluations in the first days of April.

Example timeline:

- *Ideation*: March 1–10
- *Prototyping*: March 11–25
- *Testing*: March 26 – April 5

This breakdown allows for clear expectations, shared understanding of progress, and adaptability in case priorities or conditions change.

8.2.4 Impact evaluation and measurement

Impact evaluation is one of the most significant phases of an inclusive co-design process, as it allows a deep understanding of the value generated by the initiative. In contexts where the objective is not only to develop concrete solutions but also to trigger cultural, organizational, or social change dynamics, it is essential to have a structured and participatory system for collecting evidence, listening to participants' experiences, and reflecting collectively on the results.

Evaluating impact means asking key questions: What has changed after the project? What effects has it had on participants, the community, and the networks involved? Are the results aligned with the initial objectives? What can be improved, transferred, or replicated elsewhere?
Measuring impact means asking key questions:

- *What has changed after the initiative?*
- *What effects did it have on participants, the territory, and the involved networks?*
- *Are the outcomes aligned with the stated objectives?*
- *What lessons can be transferred or replicated in other contexts?*

Since many effects emerge in the medium to long term and often concern intangible aspects, it is important to combine quantitative and qualitative tools. Among these, pre/post-event questionnaires help measure perceived change; key performance indicator (KPI) dashboards provide a visual overview of results; and follow-up interviews allow assessment of the persistence of effects and the quality of the experience.

Examples of indicators:

QUANTITATIVE KPIS

- Number of solutions prototyped.
- Percentage of participants who acquired new skills (self-assessed).
- Number of new contacts or collaborations initiated.

QUALITATIVE KPIS

- Participant satisfaction level (e.g., on a 1–5 Likert scale).
- Changes in perceived autonomy or self-efficacy.
- Evaluation of the co-design process and the collaborative atmosphere.

Ultimately, evaluating impact from an inclusive perspective means going beyond numbers, valuing personal narratives, small daily changes, and the new relationships activated. It is an opportunity for collective learning and for strengthening the project's legitimacy in the eyes of stakeholders, partners, and funders.

8.2.5 Conclusión: un modelo dinámico y adaptable

The proposed model — inspired by Hackability's experience — is not a rigid or standardized procedure but rather a flexible, dynamic, and strongly action-oriented framework. Its intent is to offer a clear but open reference framework, capable of supporting those who organize and facilitate inclusive co-design processes in managing complexity, promoting active involvement, and pursuing tangible impact.

Integrating participatory methodologies, shared planning tools, and systematic evaluation systems enables not only greater effectiveness of interventions but also the transformation of every event into a true laboratory of social innovation. A place where design is not limited to producing solutions but becomes an opportunity to build relationships, activate communities, and generate shared knowledge.

In this perspective, **every workshop represents a building block in a broader process** that values each person's skills, documents the results achieved, feeds collective memory, and creates space for new possibilities.

09 INCLUSIVE KIT

09

A TOOLKIT FOR SYSTEMATIC INCLUSIVE DESIGN PRACTICE

This module introduces the Inclusive Kit: a structured collection of methods, templates, and facilitation guides that educators and FabLabs can use to embed inclusion systematically in their educational programs. It emphasizes co-design with users, practical application, and scalability for diverse contexts.

The objective of this module is to provide participants with a practical toolkit for embedding inclusion systematically in design education and practice. It integrates creativity, digital fabrication skills, teamwork, accessibility auditing, and documentation strategies to support the planning and delivery of inclusive co-design pathways.

9.1 TOOLKIT FOR SOCIAL INNOVATION

Toolkit for Social Innovation

Amid the digital and educational transformation involving schools, FabLabs, and organizations working with people with disabilities (PWD), we developed a tool that bridges creativity, inclusion, and professional development: the IDEA Toolkit. More than just a set of canvases, it is a structured, replicable, and scalable educational methodology built on co-design and inclusive thinking.

9.1.1 A Toolkit that changes the way we design

The Toolkit was created to help learners shift paradigm and understand co-design and its principles. At its core is the belief that generating **accessible innovation** requires a cultural shift: designing not just for people with disabilities, but with them.

In this context, the **IDEA Toolkit** becomes essential: a practical tool that facilitates **co-creation**, reduces complexity, encourages collaboration, and guides the development of solutions that truly meet users' needs.

9.1.2 An ecosystem for empowerment

The Toolkit does more than generate accessible solutions: it also promotes the development of key skills for participants and support inclusion on the way. Staff, educators, and users build competencies across four areas:

Creativity	Digital skills	Social skills	Professional development
Lateral thinking, problem setting, ideation.	*3D modeling, digital fabrication, UX design*	*Communication, empathy, collaboration.*	*Rapid prototyping, pitching, validation.*

This integrated approach fosters a culture of inclusion, raises design awareness, and reduces the risk of developing ineffective or non-adopted solutions.

9.1.3 From need to impact: process phases

Built on established frameworks such as Design Thinking, Design for all, Service Design, and User-Centered Design, the process unfolds through clear phases:

STEP 01

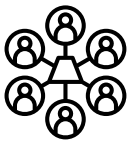
Problem Setting and Shadowing

It starts with observation and listening, using methods like shadowing and user interviews. The focus is on identifying latent needs and everyday micro-barriers.

STEP 02

Stakeholder Mapping and Value Proposition

Mapping the actors and analyzing the context helps clearly define the "need" and the value that a solution can bring



STEP 03

Co-design and Idea Creation

The team collaborates with users to generate ideas based on identified needs, encouraging creativity and diverse perspectives. Here initial inclusive solutions begin to take shape.

STEP 04

Prototyping, and Testing

Through structured activities team builds tangible solutions, prototypes and tests and validates it with real users.

STEP 05

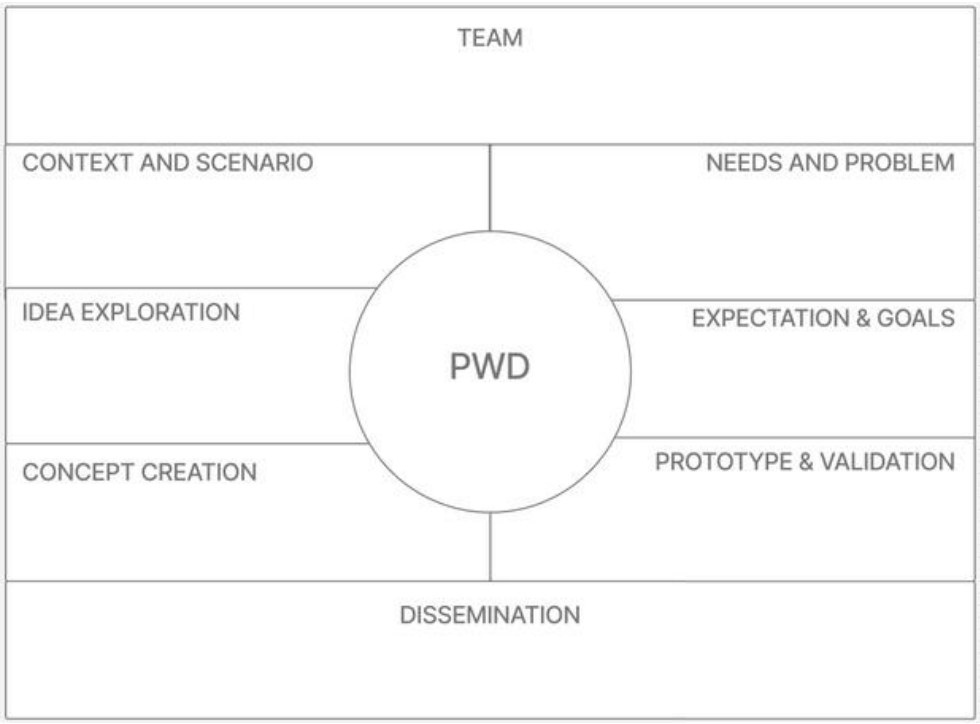
Communicable and scalable outputs

The project concludes with a presentation of the results using structured storytelling (e.g. STAR method), ready to be shared and replicated.

9.2 INCLUSIVE CO-DESIGN TOOLKIT

A structured pathway to design accessible, meaningful, and sustainable solutions together with users.

This section guides teams through forming inclusive groups, understanding contexts and scenarios, and identifying real user needs to ensure that every design decision is informed, empathetic, and actionable.



9.2.1 Co-Design team formation

A **successful co-design process begins with people.** The team formation stage is essential because the strength and diversity of the group directly influence the creativity, inclusivity, and impact of the solution.

By assembling a team that reflects different experiences, skills, and perspectives, including those of people with disabilities (PWD), we lay the foundation for empathy-driven innovation. This stage promotes mutual trust, shared language, and a culture of collaboration, which are crucial to co-creating meaningful and accessible solutions.

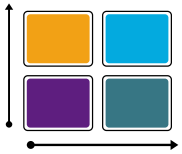
ACTIVITY

Objective: Build a balanced, inclusive, and motivated group that can work collaboratively and respect diversity.

Phase Key Activities:

- Map skills (technical, relational, experiential).
- Include end users (PWD), caregivers, technicians, designers, educators.
- Define roles, engagement rules, and shared communication tools.
- Express expectations from the co-design phase (I'm here why... and I would like to... for... reaching this objective...)

Visual Elements:



Team Map Template: Use a skills-and-perspectives matrix with icons representing diverse backgrounds, including disability types. (e.g Team Canvas) and a summary of the team values and commitments.

Facilitator Tips:

- Begin with a storytelling circle where each member shares a personal experience related to the topic of discussion.
- Ask to any team member at least one question to deepen one info, an interesting fact they shared in the group.

Expected Output: Team map with shared expectation and roles or skills we bring within the team.

The Team Canvas Basic

Version 1.0 | English | theteamcanvas.com

Most important things to talk about in the team to make sure your work as a group is productive, happy and stress-free

TEAM NAME _____ DATE _____

PEOPLE & ROLES

What are our names and the roles we have in the team?

VALUES

What do we stand for? What are guiding principles? What are our common values that we want to be at the core of our team?

PURPOSE

Why are we doing what we are doing in the first place?

GOALS

What we want to achieve as a group? What are our key goals that are feasible, measurable and time-bounded?

RULES & ACTION POINTS

What are the rules we want to introduce after doing this session?
How do we communicate and keep everyone up to date? How do we make decisions? How do we execute and evaluate what we do?

Team Canvas Quick Start Guide

1. WHICH TEAM CANVAS SHOULD I USE?

Team Canvas comes in two flavors.

Use **Team Canvas Basic** to kick off team projects or creating new teams. Use complete **Team Canvas** to gently resolve conflict and increase team productivity for existing teams.

- ✔ Start a team
- ✔ Kick-off a project
- ✔ Short-term alignment

30-45 minute session

- ✔ Team alignment and cohesion
- ✔ Gentle conflict resolution
- ✔ Long-term team culture

90-120 minute session

Version 1.0
theteamcanvas.com | hello@theteamcanvas.com

2. WHAT DO I NEED TO RUN A SESSION?

Just a few basic things:

- ✔ Print, draw or project big enough Team Canvas on the wall
- ✔ Make sure each team member has sticky notes of a different color,and a marker / pen
- ✔ Book a separate room and have enough time (up to 120 minutes)

3. HOW TO FACILITATE A SESSION?

- ✔ Easy to follow step-by-step guide for facilitators and team leads available for free online: http://theteamcanvas.com/use/
- ✔ Let us know how it goes. Twitter: #teamcanvas

9.2.2 Context and scenario definition

Understanding the environment in which the design challenge occurs is crucial to creating solutions that truly fit. This phase focuses on exploring the physical, social, and institutional context that surrounds the user.
By mapping the scenario and identifying key actors and influences, teams gain a realistic picture of the problem and the dynamics that shape it. This groundwork allows for more targeted, effective, and relevant design interventions.

ACTIVITY

Objective: Understand the real-life setting where the need arises, including barriers, opportunities, and environmental influences.

Phase Key Activities:

- Context mapping (physical, social, institutional).
- Stakeholder mapping.
- Data collection through observation, shadowing, interviews.
- Design of the current user journey ("as-is").

Visual Elements:

People with disability's Scenario Map/Journey: layered diagrams illustrating physical spaces (e.g., home, street), social networks, and institutions interacting with users.

Stakeholders maps: stakeholder mapping is a design activity that allows us to identify stakeholders and their expectations regarding the project to be carried out.

Examples:

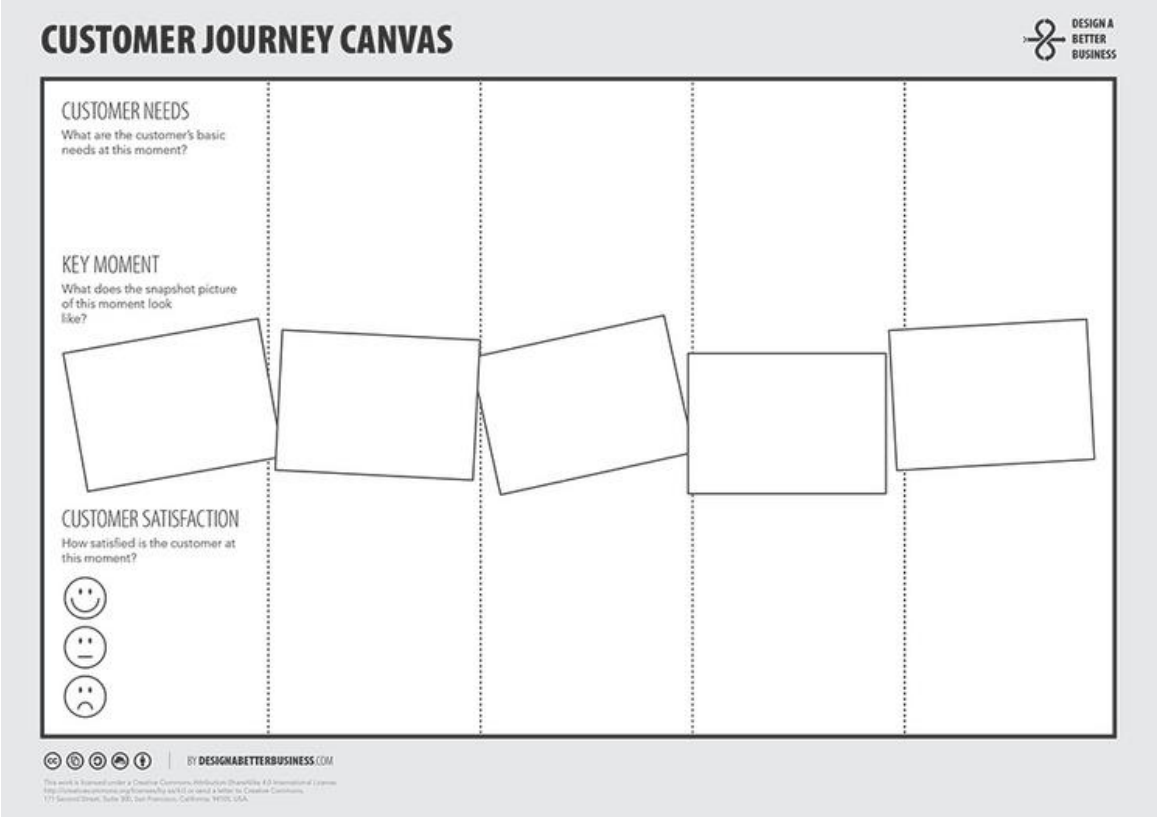
- **Photo diary** from shadowing a visually impaired user navigating public transport, showing barriers like inaccessible signage.
- **Visualise key points** as pros and cons of the actual situation on the journey

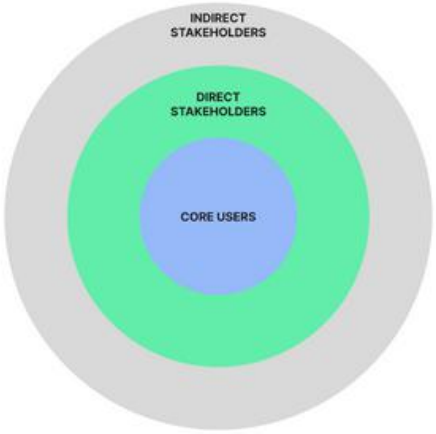
- **List all the people** involved in the context of analysis showing core, direct and indirect people and/or institutions interacting with the PWD journey.

Facilitator Tips:

- Organize a guided shadowing experience to physically experience context challenges.
- Use video, photos, notes or snippets from observations to enrich team understanding.

Expected Output: Team map with shared expectation and roles or skills we bring within the team.





9.2.3 Needs and problems identification

Identifying user needs, both spoken and unspoken, is the heart of inclusive design. In this stage, the team works to uncover not just the obvious challenges but also hidden or systemic barriers that users may face. By engaging directly with users through empathetic methods, teams build a shared understanding of what truly matters and what issues require the most urgent attention.

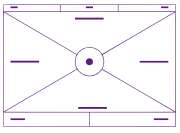
ACTIVITY

Objective: Deeply understand user needs (explicit and implicit) and structural problems they face.

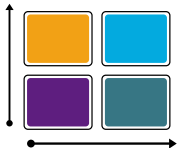
Phase Key Activities:

- Empathy techniques (Empathy Map)
- Impact/feasibility Needs clustering for prioritization.

Visual Elements:



Empathy Map Template: Divided into Says, Thinks, Does, Feels sections with sample user quotes and icons.



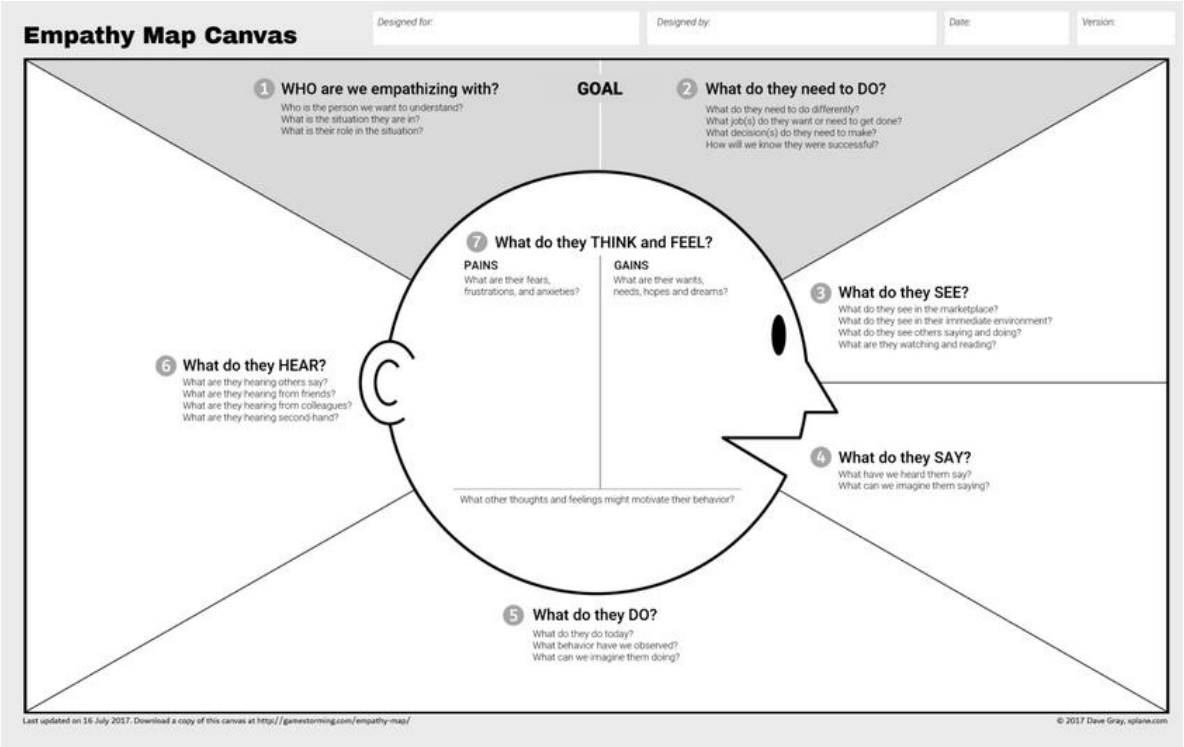
Impact/Feasibility Matrix: cluster the findings into the matrix.

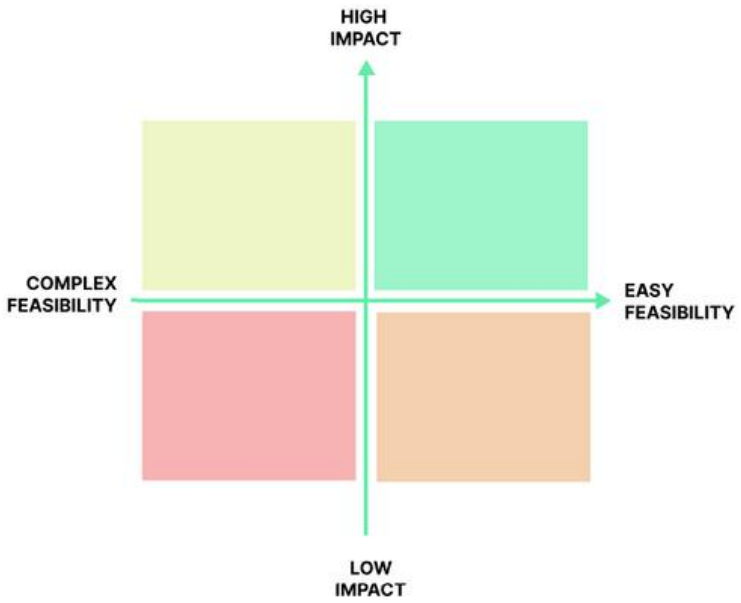
Examples: Sample empathy map based on interviews with hearing-impaired users, revealing communication frustrations.

Facilitator Tips:

- Encourage silent brainstorming on sticky notes for needs to ensure all voices are heard.
- Group similar needs visually on a wall or digital platform to highlight patterns.

Expected Output: PWD Empathy Maps - cluster of need and problem.





9.2.4 User expectations and goals

Designing for inclusion means recognizing the user not only as someone with functional needs but as a whole person: emotional, social, and cultural. This phase invites teams to explore the aspirations, values, and life context of the user. Understanding these dimensions leads to solutions that are not just usable but meaningful and empowering. Many of the other modules address instruments that may be useful for this humble approach.

ACTIVITY

Objective: Give voice to the desires, values, emotions, and expectations of the user, beyond functional needs.

Phase Key Activities:

- Qualitative interviews and visual storytelling.
- Exploration of emotional, cultural, symbolic dimension with the definition of meaningful personal, social, and relational goals.

Visual Elements:

Aspirations and Goals Canvas: divided into emotional, cultural, and social sections, including quotes and symbolic images. Illustrate user aspirations.

Examples: A short user video describing hopes for independence beyond just physical accessibility.

Facilitator Tips:

- Use drawing or role-playing exercises to let participants express non-verbalized hopes.
- Validate the goals with the users for authenticity

Expected Output: "Aspirations and Goals" Canvas.

9.2.5 Research and exploration of existing solutions

Before building something new, it is essential to explore what already exists. This phase helps avoid reinventing the wheel and enables teams to learn from previous successes and failures. Reviewing existing tools, services, and strategies provides a foundation to improve upon or innovate more effectively, grounded in real-world insights.

ACTIVITY

Objective: Understand what has already been done, what works, and what doesn't.

Phase Key Activities:

- Identify family of Ideas
- Benchmarking (products, services, policies).
- Analysis of open-source solutions.
- Identification of gaps and improvement areas.

Visual Elements:

Benchmarking Matrix: Comparative table summarizing features, accessibility, cost, and impact of existing solutions.

Gap Analysis Chart: Visual highlighting unmet needs or underserved user groups.

Examples: Case study of a successful open-source assistive technology and lessons learned from its deployment.

Facilitator Tips:

- Encourage exploration beyond products: look at policies, community initiatives, and support networks.
- Frame failures as valuable learning moments to reduce fear of experimentation.

Expected Output: Idea Proposal and Comparative analysis.

9.2.6 Concept development

With a solid understanding of context, needs, and possibilities, the team begins shaping the core idea. Concept development brings together creativity and strategy to envision how the solution will work, what value it brings, and how users will experience it. This phase translates research into actionable direction, forming the blueprint for what comes next.

ACTIVITY

Objective: : Shape the design idea: the how and why behind the solution.

Phase Key Activities:

- Participatory ideation (co-design workshop).
- Define concept (functions, benefits, differentiators).
- Future User Journey, Service Blueprint, technical diagrams.

Visual Elements:

Concept Sheet: Graphic summary showing core functions, user benefits, and key differentiators

Future User Journey Map: Storyboard depicting how users will interact with the new solution.

Service Blueprint: Diagram mapping user touchpoints and backend processes.

Examples: Example concept sheet for an inclusive communication app, showing features like voice-to-text and symbol support

Facilitator Tips:

- Use “How Might We” questions to trigger ideation.
- Keep revisiting personas and goals to stay user-centered.

Expected Output: Concept Sheet + To-be Journey + Blueprint.

9.2.7 Prototyping and validation

Ideas come to life through prototypes. This phase is where teams begin to test their assumptions and designs in a tangible way. Prototyping encourages experimentation and early user feedback, reducing risk and ensuring the final solution is both feasible and impactful. Validation with users ensures the design truly meets their needs and expectations

ACTIVITY

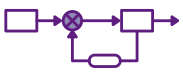
Objective: Rapidly develop and test a concrete solution by involving users in an iterative process.

Phase Key Activities:

- Pretotyping and Prototyping (mockup, MVP, demo).
- User testing (usability testing, shadowing, feedback).
- Continuous iteration and improvement.

Visual Elements:

Prototype Gallery: Photos or mockups at various fidelity levels.



Feedback Loop Diagram: Illustration of iterative testing and refinement cycles.

Examples: Storytelling example of a prototype evolving after usability tests with PWD.

Facilitator Tips:

- Use “How Might We” questions to trigger ideation.
- Keep revisiting personas and goals to stay user-centered.

Expected Output: Functional prototype + Validation report.

9.2.8 Communication and distribution strategy

A good idea needs a clear voice. Communicating the value, purpose, and usability of a solution is key to its success and adoption. This phase supports teams in planning how to tell the story of their project in a compelling and accessible way: through the right channels, to the right audiences, and with the right tone. It ensures the solution can be shared, celebrated, and scaled.

ACTIVITY

Objective: Strategically plan how to communicate the project, to whom, and with what tools, to support dissemination, engagement, and replication.

Phase Key Activities:

- Define communication targets (end users, institutions, media, local networks)
- Identify key messages (accessibility, impact, values).
- Choose dissemination channels (events, social media, video, podcast, posters)
- Produce communication materials (pitch, demo video, testimonials)

Visual Elements:

Communication Plan Canvas: Table with audiences, messages, channels, and timing

Storytelling Framework: Template to build compelling narratives around impact and accessibility.

Examples: Sample social media campaign poster with accessible design features like high contrast and alt text.

Facilitator Tips:

- Include end users in creating messaging to ensure authenticity.
- Use accessible formats like easy-read documents, sign language videos, and audio descriptions.

Expected Output: Visual communication plan + Narrative toolkit.

9.3 ACTIVITIES AND REAL-WORLD EXAMPLES

Activities, Outcomes, and Reflections

This final chapter translates inclusive thinking into action through practical activities, real-world examples, and reflective practices.

ACTIVITY 1: EMPATHY MAPPING WORKSHOP

Learners collaboratively create empathy maps for users with diverse needs (e.g., a nonverbal communicator, a wheelchair user, a neurodivergent person). This activity helps visualize user experiences and identify invisible barriers in environments or systems.

ACTIVITY 2: CO-DESIGN SESSION

Learners organize collaborative design sessions with participants from different backgrounds, including those with lived experience of exclusion. Together, they brainstorm and prototype solutions, gaining experience in inclusive facilitation and feedback incorporation.

ACTIVITY 3: SPACE ACCESSIBILITY AUDIT

Working in teams, learners assess the accessibility of a chosen space, such as a FabLab, classroom, or public venue, using checklists and direct observation. They then propose realistic, budget-aware improvements and present them to stakeholders.

ACTIVITY 4:I NCLUSIVE PRODUCT CHALLENGE

In this challenge, learners design a product or tool that addresses a specific accessibility barrier, such as a one-handed kitchen device or an augmented reality wayfinding system. The process emphasizes prototyping, testing, and feedback from real users.

9.3.1 Learning outcomes

At the end of this Toolkit, learners will be able to:

- Define inclusive thinking and explain its importance in contemporary design and education.
- Apply inclusive design approaches, including Human-Centered Design, Universal Design, and Culturally Responsive Thinking, in real-world scenarios.
- Collaborate effectively with individuals from diverse backgrounds to co-create meaningful solutions.
- Design environments, products, or experiences that accommodate a wide range of needs and abilities.
- Reflect critically on their own biases and practices, and identify opportunities to foster equity, access, and inclusion in their work.

9.3.2 Assessment and reflection

Assessment Methods:

Active Participation	Reflective Journals	Social skills	Professional development
People are evaluated on their engagement in workshops, discussions, and collaborative projects, with attention to how they apply inclusive strategies in real time.	*Learners maintain journals to explore personal growth, empathy development, and challenges faced when designing for inclusion, fostering self-awareness and accountability.*	*Teams present their inclusive design solutions, showcasing the process, outcomes, and user involvement in their projects, as well as how feedback was incorporated.*	*Learners assess their collaborative and communication skills, reflecting on how they contributed to inclusive teamwork and supported one another.*

Reflection Prompts:

When have you felt excluded?

- *Reflect on a moment of exclusion and identify what changes in environment, communication, or design might have made you feel more included.*

How would your last project change with inclusive thinking applied?

- *Re-examine a previous project and imagine how it might be redesigned to better serve diverse users or communities.*

What simple change could make your classroom or group more inclusive?

- *Identify a low-effort, high-impact modification to your current environment that could immediately enhance inclusivity and belonging.*

GLOSSARY

This **glossary** defines the key technical and conceptual terms used across the IDEA Project modules, supporting shared understanding among educators, facilitators, and learners. The selected terms reflect the language of inclusive co-design, digital creativity, and participatory education. Each entry includes a definition and indicates the primary module where the term is most relevant, facilitating quick reference for those implementing the toolkit.

ACCESSIBILITY

06 Inclusive Communication, **09** Inclusive Kit

The design of environments and materials so they can be used by all people, including those with disabilities, without the need for adaptation.

AFFORDANCE

01 Problem Setting – UX Research

The qualities or properties of an object that suggest how it can be used, important in making design intuitive and accessible.

AGENCY

02 Co-Design Principles

The capacity of individuals (especially participants with disabilities) to act intentionally and influence design processes and outcomes.

CHART OF RECIPROCAL RULES

03 Idea Creation

A symbolic and narrative agreement co-created by participants to define shared expectations and mutual respect during workshops.

CO-DESIGN

02 Co-Design Principles

Collaborative design practice involving users and stakeholders as equal partners in ideation, development, and evaluation.

CO-INNOVATION

02 Co-Design Principles

Process of integrating multiple expertises to develop novel solutions, often in industrial or entrepreneurial contexts.

CO-PRODUCTION

02 Co-Design Principles

Joint delivery of services by providers and users, differing from co-design by focusing on implementation rather than ideation.

EMPATHY MAP

01 Problem Setting – UX Research**; 09** Inclusive Kit

A tool for capturing what a user says, thinks, does, and feels, facilitating understanding of user experiences.

FABLAB

09 Inclusive Kit

Fabrication laboratory equipped with digital tools for prototyping, fostering learning and experimentation.

ITERATION

04 Prototyping and Validation

Repeated cycles of prototyping, testing, and refining to improve a design.

MAKER

09 Inclusive Kit

An individual who creates prototypes or products using digital and traditional tools, often in FabLab environments.

MOODBOARD

03 Idea Creation

A collection of visual materials used to explore and communicate aesthetic or conceptual ideas during design processes

PERSONA

01 Problem Setting – UX Research

A fictional character used to represent user archetypes, guiding empathetic and user-centered design.

PITCH

07 The Pitch as a tool for inclusive prototyping

A concise, persuasive presentation communicating the value of an idea or prototype to an audience.

PRETOTYPE

04 Prototyping and Validation,
09 Inclusive Kit

A preliminary, tangible representation of a solution, used for testing and validation with users.

SHADOWING

01 Problem Setting – UX Research,
09 Inclusive Kit

A research method where designers observe users to understand their behaviors and contexts.

STAKEHOLDER MAPPING

08 Management Model,
01 Problem Setting – UX Research

Process of identifying, classifying, and analyzing individuals or organizations involved in or affected by a project.

STORYTELLING

07 The Pitch as a Tool for Inclusive Prototyping

Narrative techniques used to communicate ideas, experiences, or project outcomes in a relatable and engaging way.

UNIVERSAL DESIGN FOR LEARNING (UDL)

06 Inclusive Communication

Educational framework aimed at providing flexible learning environments that accommodate diverse learners' needs

USER JOURNEY

01 Problem Setting – UX Research,
09 Inclusive Kit

A visual or narrative representation of the steps users take when interacting with a service or product.

UX (USER EXPERIENCE)

01 Problem Setting – UX Research

The overall experience of a person interacting with a system, emphasizing usability and satisfaction.


OPEN
EDUCATIONAL
RESOURCES

FLOE INCLUSIVE LEARNING DESIGN HANDBOOK (ILDH)

INCLUSIVE DESIGN FOR LEARNING: CREATING FLEXIBLE AND ADAPTABLE CONTENT WITH LEARNERS

PARTICIPATORY DESIGN PROCESS BY AND FOR PEOPLE WITH DISABILITIES IN A FABLAB

WHAT IS CO-DESIGN?

COMMUNITY-LED CO-DESIGN KIT

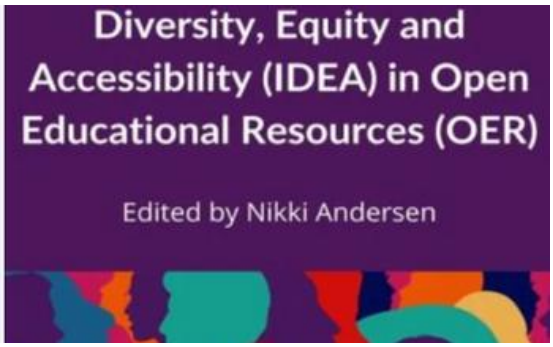
COMMUNITY CO-DESIGN

TOOLKITS FOR ACCESSIBLE PARTICIPATION: THE CASE OF PIX AS A UNIVERSAL CO-DESIGN TOOL

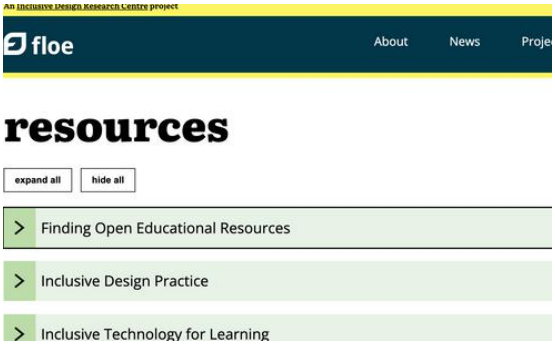
INCLUSIVE COMMUNICATION TOOLKIT

OPEN MINDS: ONLINE EDUCATION RESOURCES – DESIGN THINKING & INCLUSIVE DESIGN

ENHANCING INCLUSION, DIVERSITY, EQUITY AND ACCESSIBILITY (IDEA) IN OPEN EDUCATIONAL RESOURCES (OER) - AUSTRALIAN EDITION

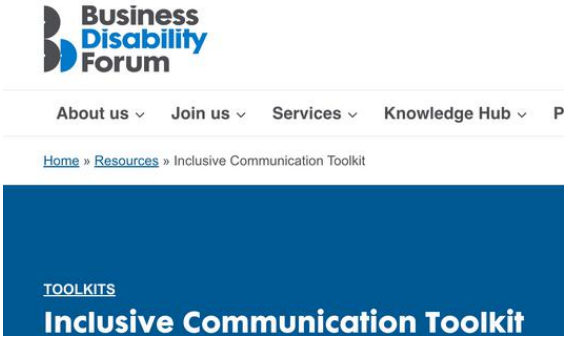


ACCESSIBLE DIGITAL OFFICE DOCUMENT (ADOD) PROJECT (FLOE PROJECT)



DISABILITY INCLUSIVE COMMUNICATION GUIDELINES

INCLUSIVE COMMUNICATION TOOLKIT



RESOURCES

INTRODUCTION

- European Union, *European Pillar of Social Rights*
- United Nations, *Convention on the Rights of Persons with Disabilities (CRPD)*
- European Commission, *DigComp, EntreComp, LifeComp frameworks*

MODULE 1/PROBLEM SETTING AND UX RESEARCH IN DISABILITY DESIGN

- Jakob Nielsen, *10 Usability Heuristics for User Interface*
- Inclusive Design Research Centre (IDRC), OCAD University
- UX Laws

MODULE 2/CO-DESIGN

- Sanders, E. B.-N., & Stappers, P. J. (2008). *Co-creation and the new landscapes of design.*
- Manzini, E. (2015). *Design, When Everybody Designs: An Introduction to Design for Social Innovation*. MIT Press.
- McKercher, K. (2020). *Beyond Sticky Notes: Co-design for Real.*
- Hackability

MODULE 3/IDEA CREATION

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- Eberle, B. (2008). *SCAMPER: Games for Imagination Development.*
- Brown, T. (2009). *Change by Design: How Design Thinking Creates New Alternatives for Business and Society*. Harper Business.
- IDEO Design Kit.

MODULE 4/PROTOTYPING AND VALIDATION

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- Moggridge, B. (2007). *Designing Interactions. MIT Press.*
- Raspberry Pi.

MODULE 5/ INCLUSIVE THINKING

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- Clark, J., & Mayer, R. (2016). *e-Learning and the Science of Instruction*. Wiley.
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MODULE 6/INCLUSIVE COMMUNICATION

- United Nations, Convention on the Rights of Persons with Disabilities (CRPD)
- European Union, European Disability Strategy 2021–2030
- WHO's ICF (International Classification of Functioning, Disability and Health)
- W3C, Web Content Accessibility Guidelines (WCAG).
- Inclusion Europe, Easy-to-Read Guidelines,
- ISAAC, Augmentative and Alternative Communication (AAC) resources.

MODULE 7/THE PITCH AS A TOOL FOR INCLUSIVE PROTOTYPING

- Duarte, N. (2010). *Resonate: Present Visual Stories that Transform Audiences*. Wiley.
- Reynolds, G. (2011). *Presentation Zen: Simple Ideas on Presentation Design and Delivery*. New Riders.
- Strategyzer, Social Value Proposition Canvas (adapted).

MODULE 8/MANAGEMENT MODEL FOR INCLUSIVE CO-DESIGN EVENTS

- Osterwalder, A. & Pigneur, Y. (2010). Business Model Generation. Wiley.
- Bryson, J. M. (2018). Strategic Planning for Public and Nonprofit Organizations. Wiley.
- Toolkit per eventi inclusivi – European Design for All e Accessibility Networks.

MODULE 9/INCLUSIVE KIT

- Team Canvas
- Empathy map Canva
- Customer Journey Canvas

IDEA

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