



GUIDANCE AND RECOMMENDATIONS FOR DESIGNERS
TO SUPPORT THEIR COLLABORATIONS WITH NGOs
IN COURSES RELEVANT TO INCLUSIVE DESIGN:

A Method Suggestion

2020



This project is supported by the British Council Newton Fund
REL Programme.



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About this guidance:

Inclusive Design SiDe Programme (Sustained Inclusive Design) is a collaboration project supported by the British Council's "Newton Fund - Research Environment Links Program". In this project, Loughborough University (the School of Design and Creative Arts) and Mimar Sinan Fine Arts University (Faculty of Architecture), together with five partners (Spinal Cord Paralytics Association of Turkey, Six Dots Foundation of the Blind, Cambridge EDC, FixEd, and the Design Research Society) are working together to create a collaborative platform where collaborations on inclusive design research and education can be carried out sustainably.

As a part of the «SiDe Programme Project», this guidance document, which focusses particularly on the collaborations between designers and non-governmental organisations (NGOs) within the scope of design education, is prepared. The guidance outlines a framework that can be utilised by designers in their courses covering inclusive design project practices, and provides recommendations for every stage necessary for the success of the collaboration effort.

In this respect, the aims of the method suggested in the following pages are to increase the effectiveness of such collaborations between designers and NGOs, and to maximise designers understanding of inclusive design by engaging them with a co-design experience.

WHY DO WE RECOMMEND WORKING WITH NON-GOVERNMENTAL ORGANISATIONS?

Besides teaching inclusive design in design-related degrees, collaborations with NGO(s) not only provide design students with a perspective on social responsibility and volunteering but also provide a chance to observe how these organisations deal with «real-life» issues in the society. These collaborations may also help design students to understand the power of design in providing solutions to a wide range of real-life issues experienced by many people in their daily lives. Many other benefits are covered on the next page.

When carrying out such collaborations, it is important to provide common benefit to all parties through inclusive design and allow students' experiential learning through co-designing with real users. In this respect, the primary audience of our «SIDe Programme Project» are universities, university design students and non-governmental organisations working on disability issues. Having said that there are also other important stakeholders such as professional designers, design consultancies, local authorities, government bodies, private sector and other local or international organisations, which can also be involved in the process recommended in this guidance document depending on the possibilities.

Benefits of NGO Collaborations

1. Projects, especially those which involve 'real' clients, enhance learning by providing students with the opportunity to apply their theoretical knowledge in a practical context.
2. Working with NGOs enables students to engage in projects which tackle real world needs which may not be addressed by commercial organisations – in this way, design students can be making a real difference to peoples' lives.
3. Within the project framework, the NGOs can introduce design students to real end users enabling a potentially powerful co-design relationship to form. Working directly with an end user encourages the design student to adopt a user-centred approach enabling them to directly appreciate the impact of their design work on those whom they design for.
4. While the end-user partner can provide the student designer with rich personal insights into their problem space and the design development, the NGO may also provide broader perspective across pertinent issues.
5. The projects address social responsibility through experiential learning thereby improving student designer confidence and future preparedness. Such collaborations may help both parties to understand the potential of inclusive design and learn from each other to deal with real-life issues experienced by different communities in society.

WHAT IS INCLUSIVE DESIGN?



Inclusive design, as defined by the British Standards Institution (BSI), is the **“design of mainstream products and/or services that are accessible to, and usable by, people with the widest range of abilities within the widest range of situations without the need for special adaptation or design”** (BSI, 2005: p.8).

The definition of BSI, identifies the scope of inclusive design within the limits of mainstream products and services and highlights eliminating the need for special adaptation or design. However, there are also other interpretations to extend the scope of inclusive design beyond the mainstream products/services to cover special provisions as well.

In this respect, Vandenberg (2008) recognizes the possibility of requirements regarding adjustability and special provision in certain contexts; and accordingly, offers three approaches to provide inclusivity:

1. Designing all products and environments for the broadest possible ‘average’
2. Providing for ‘adjustability’ by individual users, wherever this is possible
3. Making ‘special provision’ for those people who have characteristics and needs that differ so much from the average that they cannot be satisfied even by the most conscientiously designed ‘normal provision’

By also taking Coleman’s (2003) interpretation on inclusive design, the definition can further extended from a process to a tool for meeting social and political expectations of equality and inclusivity in society by providing environments, buildings, products, services and interfaces that provide independence of people as much as possible and enhance their quality of life.

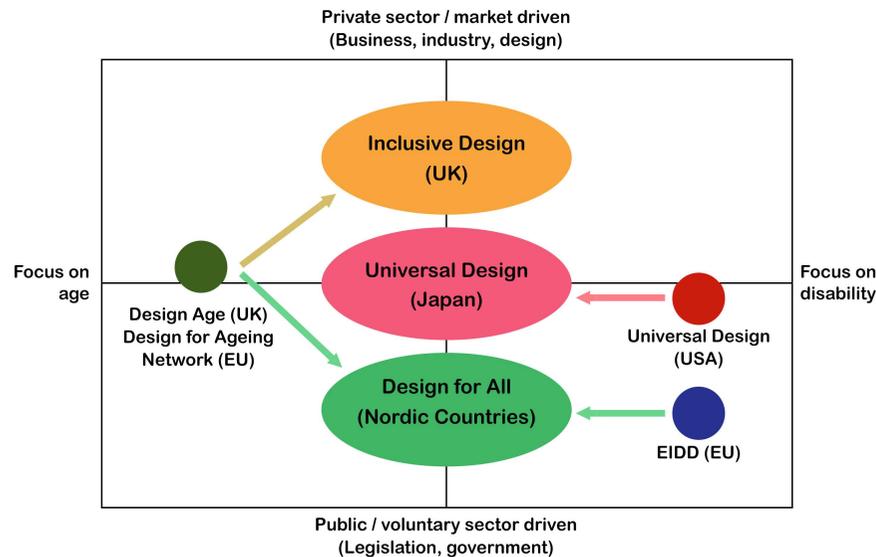
In this guidance, we adopted the definition that extends beyond the mainstream products/services to a tool that provides opportunities to overcome issues resulting in inequality in the society, because these are the problems NGOs regularly deal with for the people they represent. Besides our approach focuses on experiential learning of design students through using their design skills on real-life requirements to increase their awareness of inclusive design.

- Vandenberg, M (2008) *An inclusive Environment: an A-Z Guide to Legislation, Policies and Products*, Butterworth-Heinemann

- Coleman R (2003). *About Inclusive Design*, The Design Council, London; Available at: http://cmap.upb.edu.co/rid=1153176144406_1235390754_1547/Inclusive%20Design.pdf, [Accessed on the Aug 20 th 2020]

Inclusive Design, Universal Design, Design for All...

We can regard inclusive design, design for all and universal design as synonyms, although their origins and usage differ, as illustrated in the diagram below (Clarkson & Coleman, 2013).



As can be seen from the diagram, all these concepts focus on both age and disability-related exclusions, however, the differences are due to the cultural, economic and historic factors based on the origins in which these concepts emerged (Clarkson & Coleman, 2013).

Universal design tends to be associated with seven principles developed in 1997 by a working group of architects, product designers, engineers and environmental design researchers, led by the late Ronald Mace at North Carolina State University. These principles are (Story, 2011):

Principle 1: Equitable Use: The design is useful and marketable to people with disabilities.

Principle 2: Flexibility in Use: The design accommodates a wide range of individual preferences and abilities.

Principle 3: Simple and Intuitive Use: Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.

Principle 4: Perceptible Information: The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.

Principle 5: Tolerance for Error: The design minimizes hazards and the adverse consequences of accidental or unintended actions.

Principle 6: Low Physical Effort: The design can be used effectively and comfortably and with a minimum of fatigue.

Principle 7: Size and Space for Approach and Use: Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

(Story, 2011)

On the other hand, inclusive design is more of a process towards a better degree of inclusion and does not recommend a list of pre-determined principles. Besides, inclusive design does not disregard its economic potential in the private sector, alongside its social impact. This can be considered as the main difference in the concept of inclusive design compared with other similar concepts.

- Clarkson, P. J and Coleman, R (2013) *History of Inclusive Design in the UK*, Applied Ergonomics, <http://dx.doi.org/10.1016/j.apergo.2013.03.002>

- Story M. F. (2011) The principles of universal design. In: Eds. Preiser W. F. E., Smith K. H., *Universal Design Handbook (Second Edition)*, Section 4.3, McGraw-Hill: US

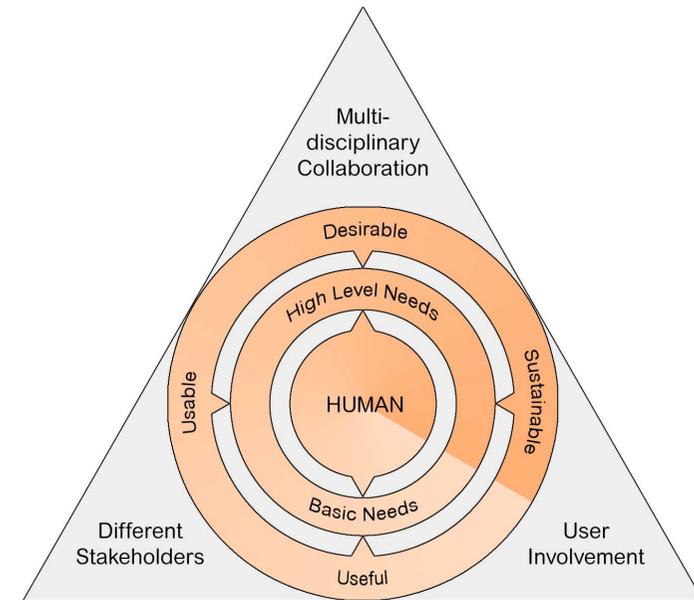
- Story M. F. (2011) The principles of universal design. In: Eds. Preiser W. F. E., Smith K. H., *Universal Design Handbook (Second Edition)*, Section 4.3, McGraw-Hill: US

Why is Inclusive Design Important and how can it be provided?

Inclusive design takes into account “people with specific mobility, dexterity, sensory, and communication impairments; learning disabilities; continence needs; and people whose mental well-being should be supported by a thoughtfully crafted and managed environment.” (CABE, 2008). In this respect, inclusive design supports the desirability of social cohesion, as well as promotes social inclusion, by making public buildings, spaces and services accessible for everyone (Clarkson, Coleman, 2013), e.g. older people, disabled people, international visitors or people who do not or cannot use technology. As a result, the final design solutions are likely to provide inclusivity, as well as support independence and social integrity.

On the other hand, inclusive design requires empathy and understanding of all potential users, and user involvement is key in the design process to identify the real needs and desires they expect from the final design outcome (Dong et al, 2005). An effective approach to achieve this is through working with ‘critical users’ whose ability and perspective challenge designers to ‘think outside of the box’. In certain cases, the process can start with focussing on addressing the specific problems of people with disabilities, but the final design outcome may provide a better solution for many others (Dong, 2010). In this respect, it can be said that inclusive design locates humans and their needs at the center of the design process.

- CABE (2008) *Inclusion by Design: Equality, diversity and the built environment*: Available at <https://www.designcouncil.org.uk/sites/default/files/asset/document/inclusion-by-design.pdf> [Accessed on the Aug 20 th 2020]
- Clarkson, P, J and Coleman, R (2013) *History of Inclusive Design in the UK*, Applied Ergonomics, <http://dx.doi.org/10.1016/j.apergo.2013.03.002>
- Dong H, Clarkson P J, Cassim J, Keates S (2005). Critical User Forums – an effective user research method for inclusive design. *The Design Journal*, V.8(2), 49-52
- Dong H (2010). Strategies for teaching inclusive design. *Journal of Engineering Design*, V.21(2-3), 237-251



As it is summarised in the diagram above (Dong, 2013), human needs include both basic needs and also high-level needs that are more complex to meet, including cultural, moral, esteem values, and so on. Design must address these needs and at the same time be useful, usable, desirable and sustainable. The key to the process is “user involvement” (with various characteristics), engaging “different stakeholders” (from local authorities, NGOs, Government bodies or private sector, depending on the subject), and “multidisciplinary collaboration” (involvement of different disciplines to offer different perspectives and skills) to provide an inclusive design solution (Dong, 2013).

- Dong H. (2013). *Global Perspectives and Reflections*. In: Trends in Universal Design – An Anthology with Global Perspectives, Theoretical Aspects and Real World Examples. The Delta Centre, Norwegian Directorate for Children, Youth and Family Affairs

OUR PROCESS

RELEVANT TASK	COLLABORATION STAGE	WHO IS INVOLVED?
Development of design briefs	The university and NGO representatives collaborate on preparing the design briefs for students, before the term starts.	<ul style="list-style-type: none"> • NGO representatives • Tutors
Introduction of the relevant concepts to students	Students will be introduced to the concepts of inclusive design, social responsibility and volunteering, ethics, and project development strategies in the beginning the term.	<ul style="list-style-type: none"> • Tutors • Design students
NGO(s) presentations for students	NGO(s) representatives visit the university, provide a presentation to students to introduce their organisation, discuss the design briefs with students and answer their questions to provide real-life facts.	<ul style="list-style-type: none"> • NGO representatives • Design students
Matching design students with their design partners from the NGO(s)	Depending on the interests of the students on design topics, workgroups are formulated. Each group is then matched with an NGO representative whom the students work with throughout their project development stage.	<ul style="list-style-type: none"> • Tutors • Design students • NGO Design Partners
Project development stage	Students co-design with their NGO partner throughout the term. Tutor(s) provide weekly feedback on their progresses.	<ul style="list-style-type: none"> • Tutors • Design students • NGO Design Partners <i>NGO representatives**</i>
Final evaluation	After student workgroups submit their projects, a presentation event is held, in which students present their projects to each other and receive feedback from both their tutor(s) and NGO(s) representatives.	<ul style="list-style-type: none"> • Tutors • Design students • NGO Design Partners • NGO representatives

** NGO representatives may be involved in case of the NGO specific information is required.

Explanation of the Roles

NGO REPRESENTATIVE: An NGO representative is the person who is entitled to initiate and/or establish a partnership with a university for collaboration, and will be responsible for managing the overall collaboration, together with the university representative.

UNIVERSITY REPRESENTATIVE: A university representative is the person who is entitled to initiate and/or establish a partnership with an NGO for collaboration. This person should also be responsible for a course that focuses on inclusive design project development, and will be responsible for managing the overall collaboration, together with the NGO representative.

TUTOR(S): The tutor(s) is the person(s) who teaches in the relevant course in which the collaboration and co-creation effort will be carried out. Depending on the course, there can be more than one tutor, as well as from different design disciplines/departments.

DESIGN STUDENT: These are the students taking the aforementioned course that involve inclusive design project development efforts as a part of the collaboration between the university and NGO. Students will work on the design brief(s) in groups (ideally 3-5 people) and together with a design partner from the partnering NGO. Depending on the type of course, student groups can be a mixture of students from different departments.

NGO DESIGN PARTNER: An «NGO design partner» is a member of the partnering NGO, who will work closely with a student group as a design partner throughout the project development process. The person should represent the possible target audience of the design brief in question.

OTHER STAKEHOLDERS: Other representatives of the audience of the inclusive design (e.g. representatives of local authorities, private sector, government units, and other NGOs/universities), who might be interested in the project outcome, or help convey the message it holds to a wider audience.

AS A DESIGN STUDENT, WHAT YOU WILL LEARN IN THE BEGINNING OF THE TERM

The concept of inclusive design: Students will be introduced to the concept of Inclusive Design. They will learn what Inclusive Design is, why it is needed, how to undertake an Inclusive Design approach and appreciate the wide range of application areas for the concept.

Social responsibility and volunteering: This will motivate students to understand how their professional design skills can make a positive impact on real-life issues within society and its positive influence on sustainability.

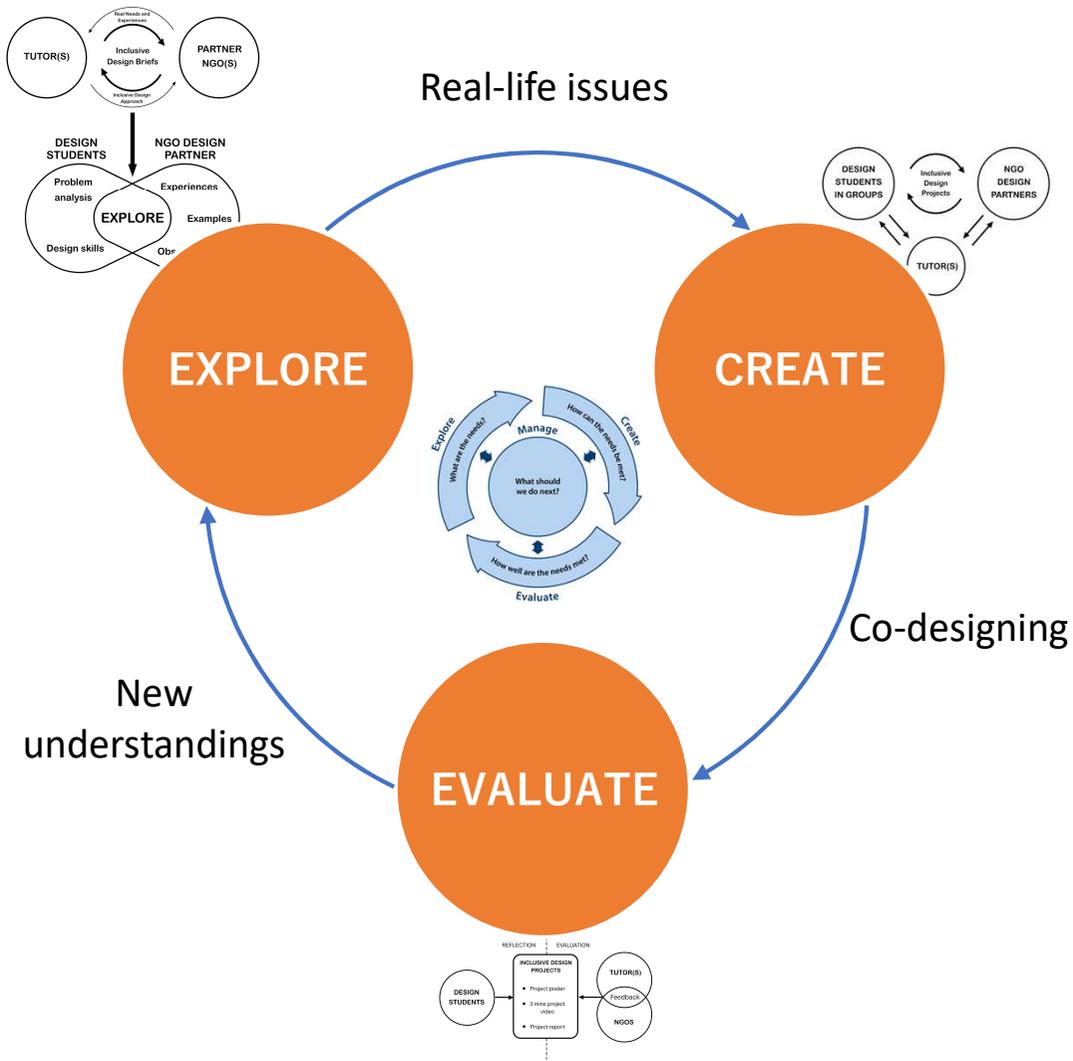
Ethics: Since the students will work with people with disabilities during the course-term, it is fundamental to introduce them to the ethical requirements and strategies on how to carry out robust, responsible and sensitive research with their design partners.

Project development strategies: Even though design projects can result in different forms, they generally share a similar process and steps. This subject will inform students about the overall process that they will go through throughout the term.

What do I need to do:

- **Background reading:** To get the most from their course and project, broaden their understanding of Inclusive Design theory and application as well as of the Fixperts process itself by engaging in background reading. Refer to the Useful Resources section of this guide
- **Time plan:** Within their group they will need to determine what tasks need to be undertaken, when they need to be completed by and what the deliverables are. This agreed project structure should be recorded as a timeplan which the whole team can access and work to.
- **Group roles:** The identified tasks need to be allocated amongst the team members. Ensure these are allocated equally and that input is even for everyone over the length of the project. Be prepared to be flexible if one team member becomes overloaded or ill.
- **Design partner communication:** A user-centred, co-design approach to the project is more likely to elicit a successful solution therefore close communication over the course of the work will be needed. Discuss with their partner when and how they will engage with them.
- **Record and reflect upon their work:** Record all key decisions and their rationale. Reflect on their approach – what worked well? What could have been better? Think about the limitations they faced and the compromises they made.

DESIGN PROCESS

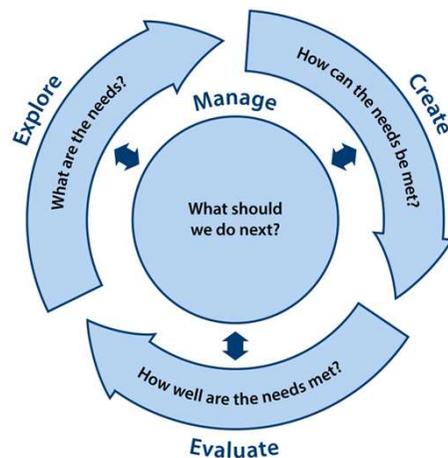


What skills will be improved?

- **Research skills:** These will be employed to enable you to have a user-driven project brief and to support your design development and evaluation. Methods may include: Partner interviews, observation, prototype testing, etc.
- **Time management:** The project will provide you with an opportunity to plan your time to meet pre-set deadlines as well as define and manage your own interim delivery points set by your team.
- **Resource management:** Finances, use of materials, access to specialist support, etc, may be restricted so you will learn how to budget and allocate effectively.
- **Client management:** Regular liaison with your design partners; eliciting their needs, holding meetings, presenting and discussing your work with them are all skills pertinent to managing clients in the real world.
- **Presentation skills:** The project will provide you with the opportunity to present your work both visually and verbally which are key skills for future professional practice.
- **Team working:** You will need to allocate work amongst your team members to ensure all tasks are completely in a timely manner. Clear communication; agreed decision-making and record keeping will all be important.
- **Co-Creation:** One of the unique aspects of our collaboration model is the co-creation process during the project development stage. This will provide the students with an opportunity to work together with a potential beneficiary of their design outcome during the design process and co-create.

THE CONCEPT DESIGN PROCESS MODEL OF INCLUSIVE DESIGN TOOLKIT BY CAMBRIDGE EDC

As could be seen in our collaboration framework on the previous page, we adopted the Concept Design Process Model of Inclusive Design Toolkit by Cambridge EDC, as the basis of our framework (Cambridge EDC, 2020).



The model is comprised of 4 main phases as Manage, Explore, Create and Evaluate. The objectives of these interlinked phases are summarised as a question for each on the diagram. The detailed information about the model can be seen on the website of «Inclusive Design Toolkit» (Cambridge EDC, 2020).

Since our focus is on collaborations between NGOs and Universities through design education and design student involvement, our framework involves the input of different participants in different phases such as design students, their tutors, NGOs and other possible external representatives depending on the course content; therefore, we use a simplified version of the model on our framework, which is explained on the next page.

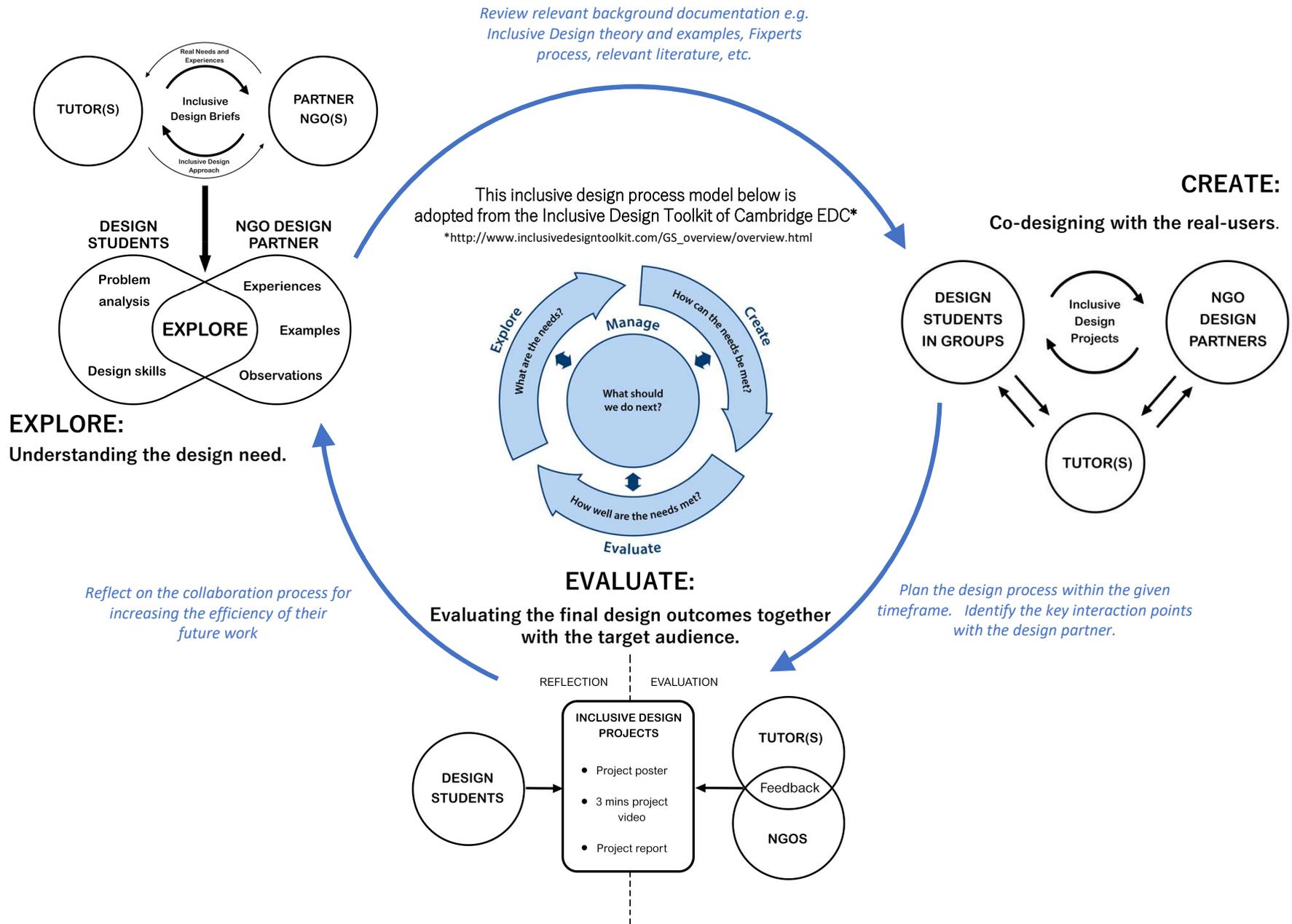
How Our Framework Integrates The Concept Design Process Model Of Cambridge EDC?

Our framework particularly focuses on Explore, Create and Evaluate phases, because tutors and other possible external contributors are involved in the «Manage» phase and the requirements of this phase may vary depending on the course focus/content and expected learning outcomes of the students. The table below summarises the content of these stages in our recommended framework for collaborations between university-NGO within the scope of design education.

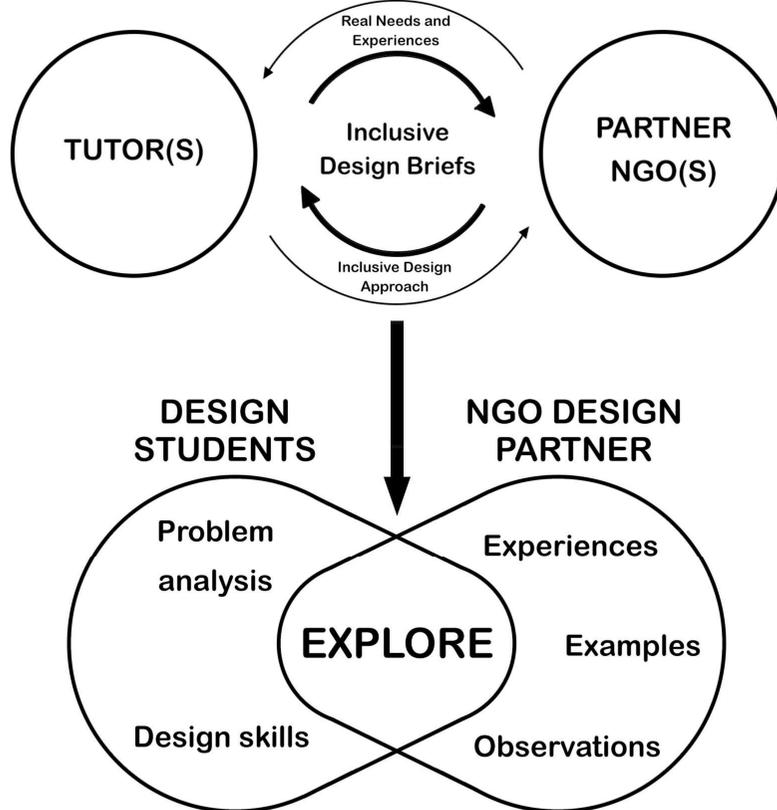
PHASES IN THE MODEL (Cambridge EDC)	HOW DO WE IMPLEMENT THIS PHASE TO OUR FRAMEWORK?	CRITICAL INVOLVEMENT
EXPLORE: This «phase is about gaining a deeper understanding of the criteria that the product needs to fulfil».	In this phase, design students will focus on the design briefs that NGO and University representatives prepared. These design briefs outline the real-life requirements from a broad perspective. Students should work in groups and together with their design partner to explore these design briefs in an effort to understand the problem area to respond with their design skills in the following stage.	<ul style="list-style-type: none"> • NGO representatives • Tutors • Design Students • NGO design partners
CREATE: This «phase is about creating possible solutions to meet the needs and criteria identified by Explore».	In this phase, students work within the design briefs which were identified in the «Explore» stage. NGOs contribute with their volunteer members, who actively take part in the design process as «design partners» and work (co-design) with students throughout the term. Tutors provide feedback to students on a regular basis.	<ul style="list-style-type: none"> • NGO design partners • Tutors • Design Students
EVALUATE: This «phase is about examining the concepts to determine how well they meet the needs».	It is not always possible to test the design outcomes in education-based practices. However, it is important to evaluate the design outcomes of the students in a meeting where all the partners and students come together and share their unique experiences with each other. This stage is necessary to build a new knowledge area as a result of the collaboration.	<ul style="list-style-type: none"> • NGO design partners • NGO representatives • Tutors • Design Students

- Cambridge EDC (2020) *Inclusive Design Toolkit*, Available at: http://www.inclusivedesigntoolkit.com/GS_overview/overview.html [Accessed on the Aug 20 th 2020]

OUR PROCESS MODEL AND RECOMMENDATIONS FOR DESIGNERS



EXPLORE: Understanding the Design Need

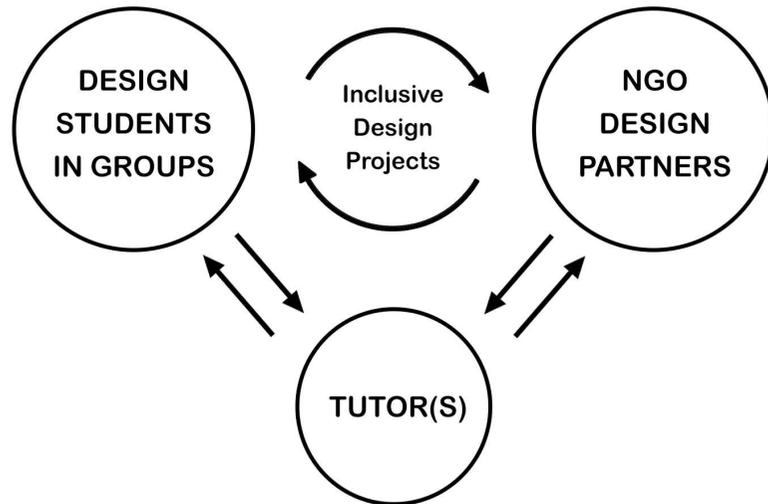


Student teams will select a design brief and, under the supervision of university Tutors, will work with the design partner to elaborate these briefs further. The teams will be small enough to enable good group cohesion and to allow each student to play a full role within the project. Where applicable, student teams will be cross-disciplinary to further enhance the students' learning.

RECOMMENDATIONS:

- Before this task, tutor(s) with inclusive design knowledge and experience will identify and develop design briefs with the NGOs. In this way, students are assured that the available projects pertain to a real-life need whilst fulfilling the course requirements and expected learning outcomes.
- The design briefs will be designed to introduce the problem area for students to investigate, rather than pointing out specific design requirements. In this way more responsibility is given to the students in the design and direction of their project since they will have to elicit and agree the design requirements.
- In the beginning of the term, design briefs will be introduced by NGO(s) representatives to students, who will associate them with real-life experiences. In this stage, it is important for students to ask questions about the design brief to understand the background issues resulting in the design need.
- Due to the fact that the design briefs are broad in defining the real-life issues, students need to find a design direction by discussing the issue with their design partner and tutors in detail to explore the brief together at the beginning of the design process.
- While exploring the design brief, the design students will use their research, problem analysis, and design skills, where their NGO design partners enrich the exploration process by sharing their experiences, observations, and real-life examples on the issues.
- Engagement with the NGOs enables the students to build a broader understanding of the design scenario they have selected which will serve to complement the highly individual insights and understanding they will obtain from their partner.

CREATE: Co-designing with the real users

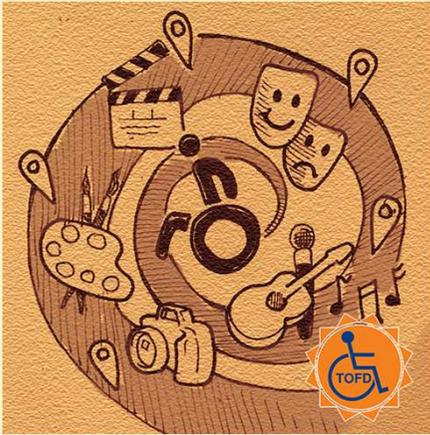


In this stage, co-design between the student team and their design partner is key and the team must develop a planned approach to enable this. Whilst it is the responsibility of the student team to lead this interactive process with their design partner, they will be supported by their tutors by discussing their progress and plans as well as assisting them in addressing any arising challenges. The tutors will also encourage student engagement with the website so that their work is disseminated to a wider audience.

RECOMMENDATIONS:

- Students will be encouraged to work with their design partners regularly. This might take the form of 1-2 weekly tasks for students to summarise what they learned from their design partner - this is particularly important in the initial design stage.
- There is a possibility for design students to experience difficulties in working in groups and turning what they learned from their NGO design partner into design concepts. It is important that the students inform their tutors if they experience any problems, as early as possible.
- For mid-term feedback, students may be asked to prepare a 1-min video to summarise their problem identification and what they learned from their design partner. Students can present this video to other student groups to share their unique experiences in dealing with different topics; in this way students learn not only from their own experience but from that of other groups.
- Students should be motivated to build simple prototypes during the process and assess these with their design partner.
- It is important that students act in a professional and ethical manner throughout the projects and especially in connection to their design partner interactions.
- Students must take care of the information and/or research materials (images, videos, etc) that they obtained from their NGO design partners and their environments. Sensitive information must be anonymised in all project materials. Students shall obtain prior consent from their design partner and provide a supporting document to their tutor.

A Design Brief Example:



Participation in Public and Social Life:

Urban spaces and the solutions they provide for people have a significant impact on social interaction and cultural development. These environments include different places from restaurants and parks to museums, theatres, cinemas and concert venues where social and cultural interactions occur and include the systems or products used inside as a whole. In addition to the problems regarding the accessibility of disabled people to many events or cultural venues the available solutions in certain locations that are considered accessible are not always providing equal access for disabled people. Considering that there are approximately 12% disabled people in Turkey, it is an undeniable fact that people who cannot access cultural and social services as a result of improper practices

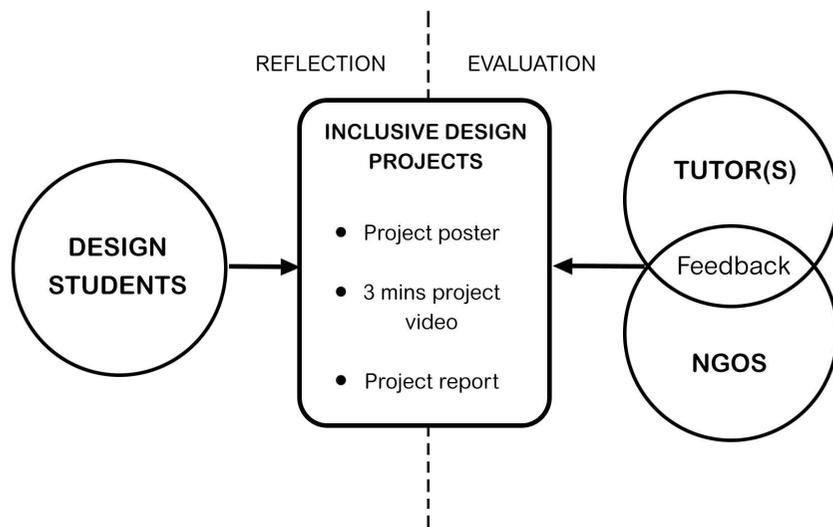
form a large part of their community and society.

Barrier-free tourism opportunities are also important to consider in terms of social sustainability. In addition to ensuring equal access, this will enhance the city's identity positively on a global stage. This project call focuses on identifying problems that prevent everyone from accessing social and cultural urban spaces to provide better solutions for everyone. This project will be carried out in collaboration with "Spinal Cord Paralytics Association of Turkey".

Certain areas that can be examined within the subject are:

- Common areas such as restaurants, shopping malls
- Areas to support cultural development
- Accessibility for all to different cultural activities under equal conditions
- Requirements regarding open and closed areas
- Access to information
- Barrier-free tourism

EVALUATE: Evaluating the final design outcomes with the target audience



In this stage, the main intention is to provide an environment for all parties to share their unique experiences. A presentation day, in which the students can present their projects to other students and receive feedback from both the tutors and all the NGO representatives who took part in different student projects, can be organised.

Several example student submissions are available on our web-platform via this link: <http://www.inclusivedesignside.org/projects?status=false>

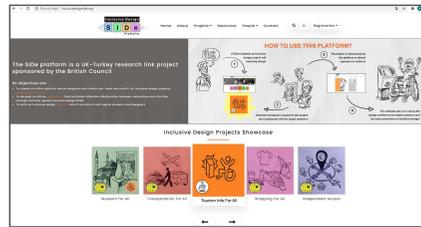
RECOMMENDATIONS:

- In order to assess the student learning outcomes, three project submissions are required:
 - (1) a poster presenting their work visually,
 - (2) a 3-mins project video to present process, and
 - (3) a project report to provide detailed information about their overall project development process.
- Although feedback will be given on the final design solution, It is important that the students are aware that when presenting their work, emphasis also needs to be given to their reflections on the experiential processes they undertook and what they learnt from them i.e. what are the transferable knowledge/skills they have gained from the project. In short, tutors will be assessing both product (final design solution) and process (the design path chosen to achieve that solution).
- The outputs will provide tangible evidence of learning and achievement which can be presented to potential future employers.
- The final design outcomes can be exhibited on our web-platform to increase their visibility for a wider audience.
- Similar to the previous stage, students must take care in using any kind of sensitive information on their final design representations. If necessary, prior consent shall be from their NGO design partner and the students must provide a supporting document about to their tutor accordingly.

OUR RECOMMENDED COLLABORATION MODEL

- INCLUDING THE INTEGRATION OF THE STAGES RELEVANT TO THE SIDe WEB-PLATFORM -

1. MATCH: An NGO or a University representative visits our platform as a collaboration initiator and finds guidance about our collaboration model. Our model uses an inclusive design project development process to provide mutual benefits to both universities and NGOs through effective collaboration, which uses design education and volunteer student involvement. In this respect, the first stage covers establishing a partnership between an NGO and a University. A list of NGOs and universities that previously used our model or the others that are open to collaborations can be found under the "Participants" section.



The design brief(s) then can be uploaded to the web platform with the logo of the NGO to make the ongoing collaboration visible.

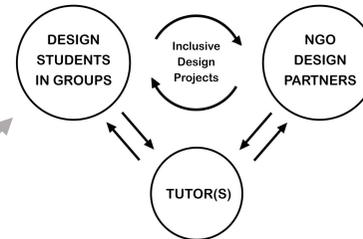


2. EXPLORE: After establishing the partnership, the NGO representative works together with the tutor(s) to develop design briefs that both focus on real-life requirements that the NGO deal with and meet the course requirements in which the design students enrolled.

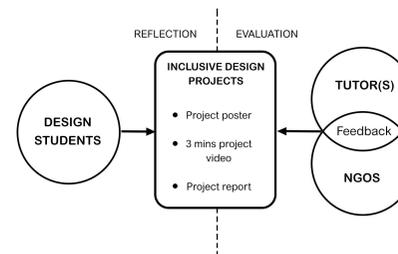


It is also possible for the collaborators to keep their efforts confidential, and this should be agreed upon among the partners. However; when uploaded, visitors of the web-platform can make comments on the design briefs, and the NGO representatives are able to make certain updates about the progress of the collaboration project. Design briefs also make the problem area visible and help to raise awareness too.

3. CREATE: Volunteer design students taking the course respond to the project and collaborate with «design partners» directed by the NGO. Design partners are the members of the NGO, who voluntarily work together with students during the design process throughout the term. Co-creation is fundamental in our model.



4. EVALUATE: At the end of the term, students working on different design briefs present their projects to other students and the NGO, and receive feedback from both the tutors and the NGO participants. University organizes this event.



5. PROMOTE: The outcome of the projects can be uploaded to the platform by the "university representative" (due to the involvement of students) and then will be exhibited in the gallery section. However, the consensus on confidentiality is important in this stage.



An invitation can be sent to relevant stakeholders/sponsors to visit the exhibition and this will help make the projects visible to a wider audience. The NGO can publish its organizational profile on the web platform, so other universities can send invitations for new collaborations on inclusive design projects.

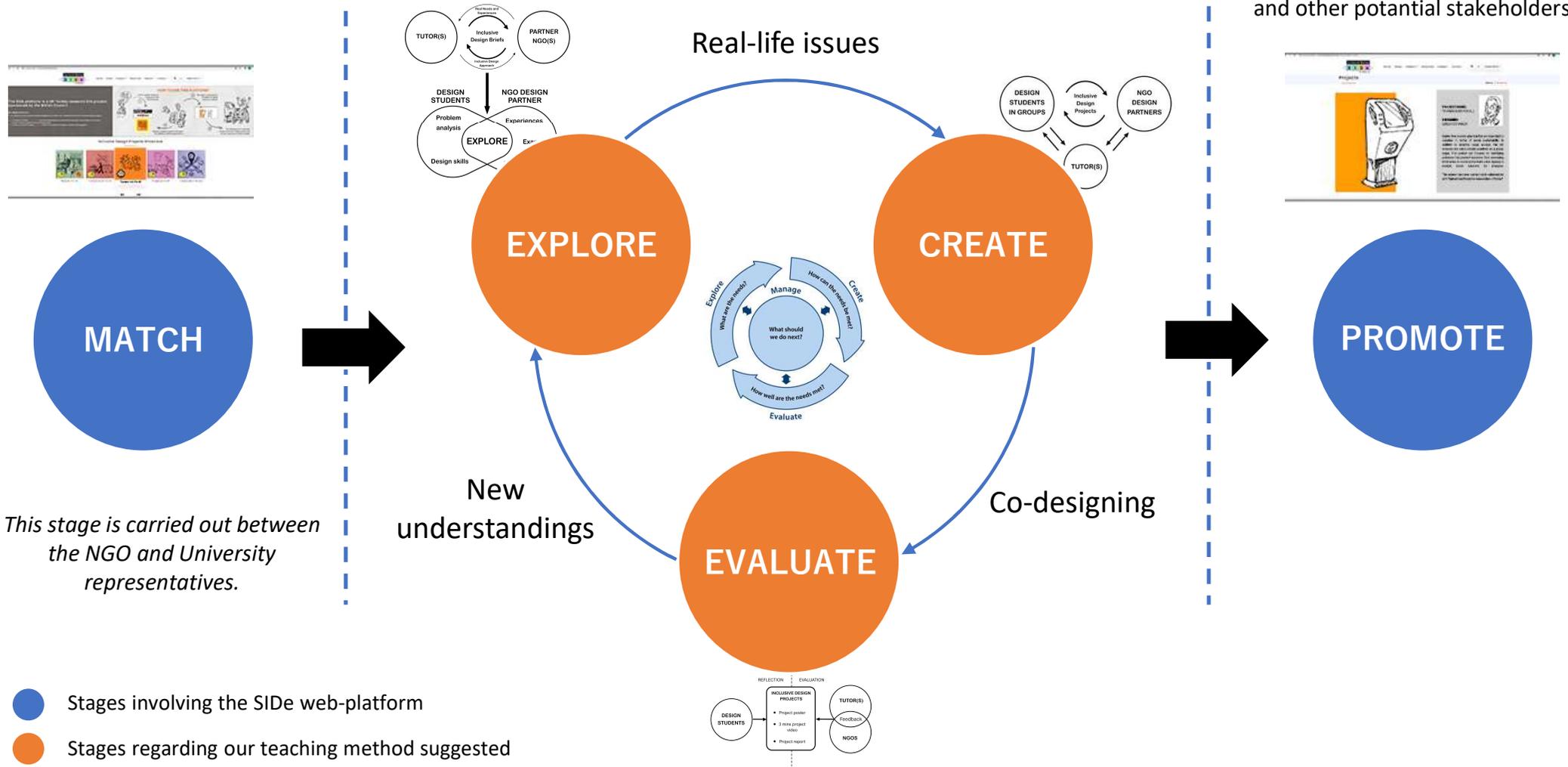


The ultimate goal is to convey the design solution to the target audience and increase the awareness of **inclusive design!**

SUMMARY OF OUR COLLABORATION MODEL INCLUDING THE INTEGRATION OF THE STAGES RELEVANT TO THE SIDE WEB-PLATFORM

Co-designing is important during the project development stage. In this respect, students «explore», «create» and «evaluate» together with their NGO design partner.

Students can open a profile on our web-platform and share their inclusive design projects to increase their visibility to public and other potential stakeholders.



USEFUL RESOURCES:

The resources are recommended by Hua Dong (PhD Cantab), Professor in Design at Brunel University London and Visiting Professor at Loughborough University, DRS Fellow and International Convenor of the DRS Inclusive Design Research Special Interest Group (InclusiveSIG).

Existing resources and relevant organisations:

- <http://www.inclusivedesigntoolkit.com/> What is inclusive design and why do inclusive design? You can find straightforward answers to these questions from this website. The website also explains the process of inclusive design, and gives information about simulations tools and design exclusion calculation tools.
- <http://designingwithpeople.rca.ac.uk> This website offers simple methods and tools for inclusive design. It includes 10 persona profiles based on real disabled people; their daily activities, 20 research methods, and guidance for ethics.
- <http://universaldesign.ie> You can find examples of built environment, products and services, and technology/ICT from this website. There are also a range of freely downloadable guidance, booklets and papers about universal design.

Key legislation, policies, and standards:

United Nations' convention on the rights of persons with disabilities
<https://www.un.org/disabilities/documents/convention/convoptprot-e.pdf>

The Principles of the Convention are:

- Respect for inherent dignity, individual autonomy including the freedom to make one's own choices, and independence of persons;
- Non-discrimination;
- Full and effective participation and inclusion in society;
- Respect for difference and acceptance of persons with disabilities human diversity and humanity;
- Equality of opportunity;
- Accessibility;
- Equality between men and women;
- Respect for the evolving capacities of children with disabilities and respect for the right of children with disabilities to preserve their identities.

CEN standard: EN 17161:2019 on Accessibility (European Standard)

- <https://www.cen.eu/news/brief-news/Pages/NEWS-2019-014.aspx> This is a European process Standard about using a Universal Design (Design for All) approach at all levels in organisations to continuously improve and manage the accessibility and usability of the products and services they provide.
- Equality Act 2010: guidance (United Kingdom)
<https://www.gov.uk/guidance/equality-act-2010-guidance>
- The Equality Act has brought different discrimination legislation together, including:
- Sex Discrimination Act 1975
- Race Relations Act 1976
- Disability Discrimination Act 1995

Academic papers and books

Persson, H., Åhman, H., Yngling, A.A. Gulliksen, J. *Universal design, inclusive design, accessible design, design for all: different concepts—one goal? On the concept of accessibility—historical, methodological and philosophical aspects. Univ Access Inf Soc* 14, 505–526 (2015).

This paper investigates the various concepts used for accessibility, its methodological and historical development and some philosophical aspects of the concept.

Luck, R. *Inclusive design and making in practice: bringing bodily experience into closer contact with making. Design Studies* 54, 96-119 (2018)

This paper offers insights into the nature of inclusive design: “by bringing the bodily experience of people with (dis)abilities more closely into their own design processes we see positive characteristics and advantages in inclusive design’s closer connections with making.”

Pullin, G., *Design Meets Disability, MIT Press, Cambridge, US (2009)*

A beautiful and thought-provoking book on design and disability.

Projects and examples

- **Apple: accessibility**<https://www.apple.com/uk/accessibility/> You can see how Apple considers and accommodates different abilities in its design. görebilirsiniz.
- **Fixperts**<http://fixing.education/films> Over 500 short Films (Typically 3 minutes each) showing ingenious, generous and inspiring fixes from Fixperts projects. You can view the films according to the categories, e.g. inventions, disability, age, home, work, community, DIY etc.
- **Awards winning inclusive Website:**<https://www.gov.uk/> This website is a good example, showing how you can find UK government services and information “simpler, clearer, faster”

Information on disability

World Health Organisation: Towards a Common Language for Functioning, Disability and Health ICF

<https://www.who.int/classifications/icf/icfbeginnersguide.pdf?ua=1>

The International Classification of Functioning, Disability and Health, known more commonly as ICF, provides a standard language and framework for the description of health and health-related states. It is a classification of health and health-related domains. These domains are classified from body, individual and societal perspectives by means of two lists: a list of body functions and structure, and a list of domains of activity and participation.

World Health Organisation (WHO) GATE (Global Cooperation on Assistive Technology) https://www.who.int/phi/implementation/assistive-technology/phi_gate/en/

GATE is a global initiative of the WHO. This is in partnership with stakeholders who represent international organizations, donor agencies, professional organizations, academia, and user groups, to realize the obligations of the Convention on the Rights of Persons with Disabilities towards increasing access to assistive technology.

Web Content Accessibility Guidelines (WCAG) 2.1

<https://www.w3.org/TR/WCAG/>

WCAG 2.1 covers a wide range of recommendations for making Web content more accessible. Following these guidelines will make content more accessible to a wider range of people with disabilities, including accommodations for blindness and low vision, deafness and hearing loss, limited movement, speech disabilities, photosensitivity, and combinations of these, and some accommodation for learning disabilities and cognitive limitations (but will not address every user need for people with these disabilities.) These guidelines address accessibility of web content on desktops, laptops, tablets, and mobile devices.