EDIDESK

OPEN ACCESS CONTENTS ON DESIGN FOR EQUALITY, DIVERSITY AND INCLUSION FOR HIGHER EDUCATION PROGRAMMES

D 2.3.1. Qualitative and Quantitative Analyses of Best Practices: Contents and Teaching Methodologies

Date: 30/05/2024

Doc. Version: 1

Authors: Marta Więckowska, Agata Chmielarz, Anna Lorenc, Patrycja Rudnicka, Emilio Rossi, Alessio D'Onofrio, Raffaella Massacesi, Zuzana Čerešňová, Massimo Menichinelli, Elena Elizondo Nieva, Alessia Brischetto

Funded by the European Union

This project has received funding from the European Erasmus+ programme (KA220-HED).
Project Number: N. 2023-1-IT02-KA220-HED-000153774

Document Control Information

Deliverable	2.3.1.
Document Title:	Qualitative and Quantitative Analyses of Best Practices: Contents and Teaching Methodologies
Project Title:	Open Access Contents on Design for Equality, Diversity, and Inclusion for Higher Education Programmes
Acronym:	EDIDesK
Document Authors:	Marta Więckowska (ASP), Agata Chmielarz (ASP), Anna Lorenc (ASP), Patrycja Rudnicka (ASP), Emilio Rossi (UNICH), Alessio D'Onofrio (UNICH), Raffaella Massacesi (UNICH), Zuzana Čerešňová (STU), Massimo Menichinelli (ELISAVA), Elena Elizondo Nieva (ELISAVA), Alessia Brischetto (UNIFI)
WP2 Leader	Marta Więckowska (ASP)
Project Owner (PO):	UNICH
Scientific Coordinator (SC):	Emilio Rossi (UNICH)
Project Manager (PM):	Rossana Gaddi (UNICH)
Doc. Version:	1
Sensitivity:	Public
Date:	30 May 2024

Document Approver(s) and Reviewer(s):

NOTE: All Approvers are required. Records of each approver must be maintained. All Reviewers in the list are considered required unless explicitly listed as Optional.

Name	Role	Action	Date
Emilio Rossi	Scientific Coordinator	Approved	30 May 2024

Document history:

The Document Author is authorized to make the following types of changes to the document without requiring that the document be re-approved:

- Editorial, formatting, and spelling
- Clarification

To request a change to this document, contact the Document Author or Owner.

Changes to this document are summarized in the following table in reverse chronological order (latest version first).

Revision	Date	Created by	Short Description of Changes
0	30.05.24	Marta Więckowska (ASP), Agata Chmielarz (ASP), Anna Lorenc (ASP), Emilio Rossi (UNICH), Alessia Brischetto (UNIFI)	First proposal.

Configuration Management: Document Location

The latest version of this controlled document is stored in EDIDesK/WP2.

TABLE OF CONTENTS

1. Introduction

This report was developed within the framework of WP2 – "Research and analysis of teaching contents on Design and EDI". The report presents the results of interpretations made by project partners as a part of the work for A 2.3 – "Qualitative and quantitative analyses of best practices (contents and teaching methodologies)" – and portrays its main results. To complete this task, project partners have worked in order to define a common result that has been reviewed, discussed, and agreed.

In general, WP2 aims to define, in the context of Design studies in the HE sector, existing practices and tools used to develop contents on Design for EDI, as well as investigations on inclusive teaching models and appropriate technologies to create inclusive learning environments.

Operational activities of A 2.3., for which ASP, UNICH, STU, and ELISAVA are responsible (ASP is the WP2 Leader), aim to interpret both qualitative and quantitative data evidenced in A 2.1. and A.2.2., to define a selected group of best practices in terms of design-oriented contents on EDI and teaching methodologies suitable for both studio and blended teaching environments. Accordingly, A 2.3. benefits from results developed in A 2.1. and A 2.2. Matches between harmonized teaching contents on Design for EDI to deliver and the most suitable methodologies to be used within teaching and learning environments are used to generate a flexible framework of data for inclusive teaching.

An outline of the A 2.3. activities and their implications within the EDIDesK project is shown below.

Framework for A.2.3. in the WP2	
Effect	Matches between teaching contents and teaching methodologies on Design for EDI.
Quantitative indicators (as per KPI, see D.1.1.2.)	Quantitative indicators: • N. 10 digital tools selected to be used for the delivery of contents within Design and Design-related programmes. • N. 10 digital tools selected to be used for the creation of inclusive learning environments.
Efficacy	Interpretative results deriving from qualitative analyses of best practices that provide insights for knowledge progressions.
Expected Results	Interpretative map.
Links with Activities (As of WP2)	• Matches between harmonised teaching contents on Design for EDI to deliver and the most suitable methodologies to be used within teaching and learning environments will generate a flexible framework of data for inclusive teaching. • Elements for the progression of teaching methodologies and knowledge transfer in the field (inclusive teaching and learning environments).
Impacts	Data developed in A 2.3. will be used to continue the work for A 2.4. and to conclude activities planned in WP2, which are fundamental to progress with experimentations set for WP3.

2. Aim of Report

The aim of this output was to develop an interpretative map that matches the best contents found on Design for EDI, resulting from A 2.1. and described in D 2.1.1., and the most suitable teaching and

learning methodologies to be used within UG and PG programmes, which are a fundamental part of the A 2.2. and documented in D 2.2.1. To achieve this objective and set up the intervention methodology, the following macro-objectives were defined:

- To understand the magnitude and the relevance of the culture on Design for EDI in the HE sector at the UG and PG level in different Design and Design-related fields.
- To identify relevant contents related to Design for EDI (in its wider interpretation) based on surveys, interviews, and analyses performed in four countries (Italy, Poland, Slovakia, Spain), with an integration made by data extracted from a worldwide survey.
- To identify a selected group of relevant teaching and learning methodologies used in the delivery of suitable contents related to Design for EDI (in its wider interpretation).
- To provide qualitative and quantitative interpretation of results previously found and documented throughout WP2 so that new open knowledge can be produced.
- To provide logical discussions about links between teaching contents and methodologies useful to properly approach the teaching of EDI in Design and Design-related fields.

The definition of these macro-objectives made it possible to define the intervention methodology and draw the research's boundaries. Developing WP2 activities will allow the validation and deepening of the results presented in a summary form in this report. The emerging data will be further deepened and elaborated through the publication of scientific papers, the modalities and timing of which will be defined by the project partners in due course.

3. Methodology

The methodology consisted in a logical sequence of actions and research activities aimed at defining the most relevant matches between teaching contents already gathered in A 2.1. against relevant teaching and learning methodologies identified in A 2.2. for both digital and in-studio environments (Figure 1). Due to the complexity and relevance of this activity, as well as the implications for A 2.4., an ad-hoc research methodology was used. Synthetically:

STAGE 1: Identification of best practices

Contents on Design for EDI found were carefully assessed by research teams that performed national analyses and/or were involved in A 2.1., since they were already instructed on activities to do or had familiarity with such information. They were later asked to employ a qualitative and quantitative evaluation to identify a selected number of entries that, from the analytical analysis of teaching contents (e.g., syllabi), were assessed as best practices.

STAGE 2: Interviews with module leaders running modules pre-assessed as best practices

Research teams conducted a series of interviews with module leaders running modules considered as best practices and filled a dedicated questionnaire to collect specific information useful for later data analysis. This allowed to focus the attention only on specific aspects that were considered as relevant for the aim of WP2 as well as to have a one-to-one discussion in the form of semi-structured interview. Qualitative and quantitative data were considered and managed.

STAGE 3: Identification of relevant data and extraction of teaching patterns

The collection of all data gathered from interviewees allowed to generate the needed critical mass of information from which to extract data and patterns useful to generalize

the most important topics and contents related to Design and EDI in different subjects such as Architecture, Product Design, Service Design, etc. The set of forms used for this research stage is included in the section “RESULT A – Overview of Selected Design-oriented Contents on EDI”.

STAGE 4: Identification of most suitable teaching and learning methodologies

In parallel with STAGES 1-3 and consistent with the desk-based research of A 2.2., the research team identified only those teaching and learning methodologies considered as promising for an effective teaching of Design for EDI in both online and studio environments. The result of this research stage is included in the section “RESULT B – Overview of Selected Teaching and Learning Methodologies”.

STAGE 5: Development of matches and the creation of an interpretative map

The combination of STAGES 4-5 allowed to produce an agreed framework to match the best contents on Design for EDI and the most suitable teaching and learning methodologies to deliver effective contents in different environments. Qualitative and quantitative insights were considered. Later, an interpretative map was produced.

Figure 1 depicts the overall research process discussed in STAGES 1-5.

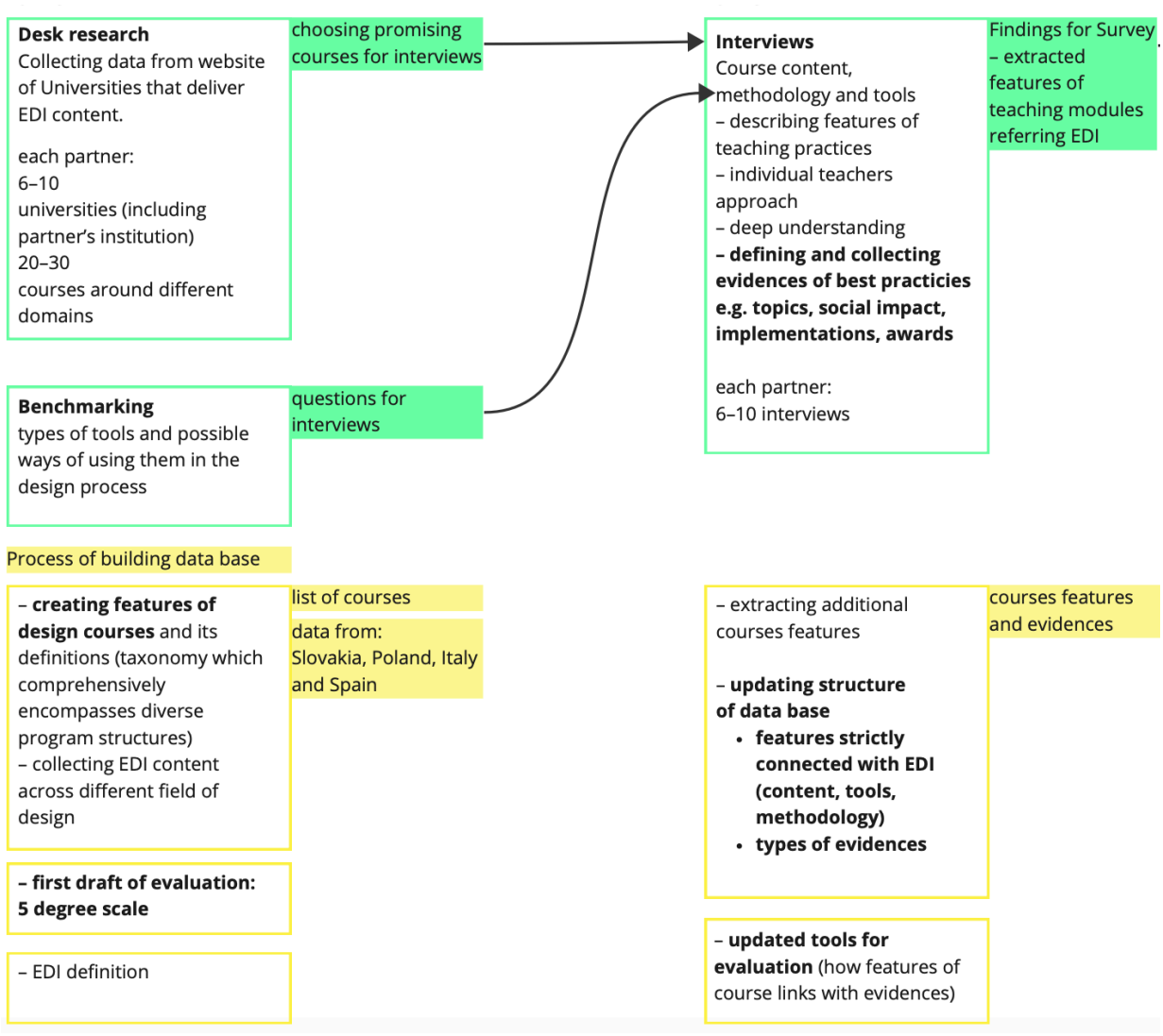

Figure 1 – Methodology and research process used.

Quantitative analyses of best practices: Contents and teaching methodologies

4. Identification of Best Practices

The identification of a set of best practices among modules, contents, and teaching methodologies is a delicate part of this project and constitutes the backbone for a smooth progression with the activities planned for the remaining WPs. However, there is the real opportunity to identify, for the first time within the context of Design studies in the HE sector, a clear set of existing practices and tools used to develop contents on Design for EDI.
This part of the report provides a synthesis of the research activities performed to identify the pre-identified aim to identify and assess the most suitable teaching practices to extract data needed to match content delivery and appropriate modalities for inclusive teaching and learning, and development curves. Accordingly, it is composed by three main parts:

- The first part defines the criteria and theories related to best practices and provides initial concepts useful to set a standard for that.
- The second part contains a list contents that are considered as best practices for the teaching of EDI in Design and Design-related fields.
- The third part shows a list of suitable teaching and learning methodologies for the teaching of EDI in Design and Design-related fields.

4.1 Defining Best Practices

Best practice is a concept that has been widely adopted across various fields, including Design and Education. At its core, best practice is a process that embodies the collective knowledge and expertise of a field distilled into a set of standards that promote optimal outcomes, efficiency, and effectiveness. This process typically involves a systematic review of existing evidence, expert consensus, and testing and refinement through practical application. The resultant best practices serve as a benchmark for quality improvement and innovation. For what concern the EDIDesK project and the WP2, best practices are intended as a selection of promising elements found in A 2.1. and A 2.2. to be later used to generate a novel set of knowledge.
Generally, in the context of research activities set for WP2, best practices are essential for ensuring the integrity, validity, and generalizability of research findings. Research is a critical component of scientific inquiry, and the reliability and impact of research findings are crucial for advancing knowledge in the Design and Design-relared fields.
In the research domain, three types of best practices can be considered (however, for the scope of this research activity, the followings are only intented for completeness of documentation):

- Evidence Based Practices (EBPs): Practices supported by a substantial body of outcomes based research.
- Best Practices (BPs): Practices supported by a substantial body of research findings generally aknowledged as superior or the state of the art.
- Emerging Practices (EPs): Practices believed by at least some knowledgeable professionals or professional groups to represent superior approaches.

One of the key aspects of best practice is the review of existing evidence. This involves a thorough examination of existing sources. The aim is to identify the most effective and efficient approaches to a particular problem or issue. This process is critical in research as it helps researchers to identify gaps in current knowledge, build upon existing research, and develop new theories and models.

Another important aspect of best practice is expert consensus. This involves gathering together experts to discuss and agree upon best practices. In the context of the A 2.3., the opportunity to directly involve experts that produce contents that are considered as potentially suitable to be considered as best practices are particularly relevant due to their capability to provide primary insights and first-hand opinions on topics to register.
Best practices are subtended to the *FAIR* principle, where FAIR stands for *'findable, accessible, interoperable, and re-usable*' data (Figure 2). These principles are the common basis for using other's data and services and making your data available to allow for interdisciplinary and international data-driven research.

Figure 2 – *FAIR* principle (from: https://www.leibniz-fli.de/research).

In addition to their relevance in research activities, best practices also have implications for research quality. This ultimately introduces the concept of collective knowledge within a given a field.

4.2. Design-oriented Contents on EDI

Table 1 presented in this section shows the two-layer selection criterion used to identify relevant case studies defining the selected design-oriented contents on EDI. Specifically:

- The FIRST LAYER refers to main elements to consider in the design and delivery of effective teaching contents related to of EDI, and how EDI is approached, integrated, and delivered via contents (online or in studio).
- The SECOND LAYER refers to complementary elements considered as relevant and potentially suitable for the aim of the work, though not compulsory for the implementation of EDI-related topics.

The use of a two-layer method was due to the complexity and the nature of data gathered from interviews with teaching staff and the opportunity to identify promising patterns to be later used for the creation of harmonized contents.

Table 1 – Two-layer selection criterion to identify best practices in the form of design-oriented contents on EDI.

FIRST LAYER – Main elements considered in the design and the delivery of teaching contents on EDI	SECOND LAYER – Complementary elements for the design and the delivery of teaching contents on EDI

• Compliance with EDI, in the following conditions:
  ○ As a singular entity (i.e., E, D, I).
  ○ As a whole (i.e., EDI).
• Correctness of the interpretation of EDI in terms of culture, methods, tools, topics, and authors.
• Culture on EDI (e.g., expertise, demonstrated track record of teaching and/or research activities).
	• Level of the module (i.e., UG or PG).
	• Nature of assessments (quantitative (grade), qualitative (written feedback), qualitative and quantitative (written feedback with grades).
	• Nature of projects, such as:
	  ○ Research-based.
	  ○ Research-through-Design.

● Type of soft skills and activities undertaken by staff to achieve EDI competencies, such as: ○ Practical skills resulting from professional projects. ○ Practical skills resulting from research projects. ○ Practical skills resulting from studio learning and other cooperative practices, even with students. ○ Theoretical skills resulting from trainings, literature, conferences. ○ Research skills resulting from autonomous or self-financed activities. ○ Research skills resulting from funded project based on competitive grants. ○ Research skills resulting from the involvement in research networks, or similar activities. ● Design, structure, and organization of module(s) that includes specific content and diverse teaching methodologies chosen according to the level of studies. ● Quality of student projects, including possible prizes. ● Identification of EDI-related competences. ● Verification of competences acquired in the EDI area, such as: tests/exams, project evaluation by teaching staff, public presentation with/for partners, attendance to events, student's self-reflection, etc. ● List of methods used to describe the correctness of information provided (empirical, quantitative, qualitative, etc.). ● Literature used in the module, including: ○ Quality and quantity of sources. ○ Updated sources used for teaching against recent developments in the field. ● Qualitative information about best practices on EDI used in the HE sector and application into delivered module(s). ● Teaching tools and methods, teaching aids. ● Relevance of the module against the whole programme, including: ○ Intrinsic relevance (i.e., core module). ○ Synergies with other modules. ● Capability to liaise with external stakeholders. ● Method to collect student feedback. ● Evidence-based data recorded from student evaluation (to counter assess the commitment of staff on EDI).	○ Creative-led. ○ Experimental. ○ Student-led VS based on pre-identified design brief. ○ Collective VS individual. ● Teaching tools and methods, teaching aids (considered as a secondary aspect). ● Adequateness of the module against the followings: ○ Year delivered (if the module is suitable for students enrolled in that year) ○ Pre-requisites (i.e., knowledge acquired in other modules from previous years). ○ Workload in relation to other modules delivered in that specific semester.

The two-layer method allowed to identify the following 15 best practices in terms of Design-oriented Contents on EDI. These are presented below in Table 2 and organized according to three areas: Attitudes, Knowledge, and Skills.

Quantitative analyses of best practices: Contents and teaching methodologies

Table 2 – 15 Best Practices: Design-oriented Contents on EDI.

	TITLE	What it is meant (details)	Motivation (why it is important)
	ATTITUDES		
1	**The content of modules should be flexible to accommodate the students' readiness to tackle different levels of EDI issues.**	The assignments should leave a space for interpretation to envisage various final outcomes. Regarding the graduation projects, students should have the flexibility to choose the topic and the direction of the project development.	Designing social change requires people involved in the action to break down certain barriers and patterns that require a certain amount of civil courage, perseverance in action, and mental resilience – a set of features that not everyone has. That is why it is important to recognize student's predisposition and openness. Therefore: • It is difficult to change someone's belief system unless they are ready. These are ethical issues that everyone interprets individually in accordance with their identity, the cultural circle in which they were brought up, their beliefs and values. Student's natural predisposition (e.g., empathy) and attitude influence the final outcome of the module objectives (student's maturity). • Teaching staff should not evaluate topics or solutions that are chosen by students for better or worse, but observe the change in students' approach (re: learning process).
2	**Modules should create a safe emotional and mental space supporting effective learning processes, to go beyond students' initial expectations on EDI (i.e., preventing biased culture).**	Contact with and observation of real users to understand their needs and habits, or while testing the solution, helps students go beyond their expectations and paradigms. Teaching staff should supervise this process and prepare students to conduct the observation with consideration of ethical issues. They should also check student readiness, especially when the issues and contexts involve difficult situations for users – such as economic or social justice concerns – that can evoke strong emotional responses.	Students tend to attach great importance to their own experiences, and in EDI projects it is important that they try to go beyond their own perspective. Students should accept rejections, avoid focusing on themselves when receiving feedback, and process it by focusing on the goal and the needs of users. Nevertheless, the success of the module cannot be only measured by the project itself, but also by how the students' perception of problems has changed and how they have deepened their understanding of it.
3	**Modules should refer to understanding the role of the designer and its limitations.**	Teaching staff should introduce examples of designer's roles and explain how in difficult situations they (designers) can have an influence.	A designer working in the EDI field should be armed with humility, the savior syndrome is extremely common among designers. In EDI design practice, emotional stability and mental resilience are essential. It is crucial to avoid encountering

			the “barrier of impossibility”.
	KNOWLEDGE		
4	**Modules should present that EDI is an integral part of the design process.**	Taking EDI values into account should be an integral part of any designer profession and there is no need to separate EDI from the rest of design. The ability to apply such values, is a kind of baseline with which one does not discuss (e.g., “operating beyond functional design guidelines”).	It is important that students learn how to recognize that EDI is an integrated part of the design process rather than being merely one of the approaches to passively apply into their creative practices – perceiving the humane dimension of design.
5	**Modules should introduce the state of knowledge about the EDI approach as an ongoing process of defining its scope.**	Modules should not only introduce the current state of knowledge regarding the EDI approach, but also emphasize that this understanding is an ongoing process aimed at continually defining and expanding its scope. This entails recognizing that the EDI is a dynamic and evolving domain, influenced by societal changes, emerging research, and evolving novel perspectives on equity and inclusivity. Therefore, students should be encouraged to critically engage with EDI concepts, challenge existing norms, and contributing to ongoing dialogues and developments within this important area of study.	There are no specific competencies for an EDI specialist (designer) other than designer competencies. It rather involves a particular mindset. Students must recognize that “perfect inclusive solutions” do not exist – including one group can inadvertently exclude others. Design solutions are based on norms that may not suit everyone. Moreover, inclusion-led or inclusive solutions can be temporary, as contexts may change, and new knowledge or technology may emerge. Consequently, ongoing rethinking and development are essential.
6	**Modules should include assignments that focus on a critical approach towards current standards and tools in the EDI area.**	Students evaluate where and how they can use the tool, as well as its effectiveness and credibility (who is the author, what theoretical assumptions the tool addresses, has it been scientifically validated? etc.).	When it comes to using EDI tools or frameworks, the critical approach is essential for a deeper understanding of issues.
7	**Modules should introduce the design as an intervention in a specific environment, or context (context-based creative practice).**	Students should perceive the solution as changing the environment, the system, and the context – not only as an individual product.	In projects dealing with complex issues where needs must be defined, students should be able to choose the most important ones, propose adequate and implementable solutions that suit the context, and address the most critical need at that specific moment.
8	**Modules should introduce some (relevant) aspects of knowledge from the social sciences**	Modules should include a thorough understanding of the necessity to include certain aspects of knowledge from the field of social sciences in the design process.	EDI is not only about physical disabilities; relational/social and cognitive ones are equally important. Biased knowledge must be avoided. That is why the social aspects of EDI need to be introduced with knowledge from the field of anthropology, sociology, environmental psychology, and physiology.

	SKILLS		
9	**Modules should present the universal use of methods used in the design (design process), that can address different aspects of the EDI approach.**	The most important competencies for students should be universal knowledge of problem solving and the ability to adapt it to different methods, enabling them to address problems and areas they have never encountered before.	Intersectional thinking is needed when designing for EDI. This is not simply designing for disability, but in the broader context of social exclusion and inequality.
10	**The use of various research methods allows to clearly identify problems in the EDI area.**	Modules should strengthen the research aspect and introduce diverse research methods and approaches that allow for the identification of real problems and causes of issues such as exclusion and inequality. Additionally, through thorough research, students can seek appropriate solutions.	A high level of social sensitivity is needed to effectively design solutions in the EDI area. Important outcome of the module should be the competency or predisposition to identify real needs – this is achieved through research, as well as the ability/sensitivity to recognize it. Through practicing different kinds of research, students can gain: • Social awareness (reading humans variability). • Capability to identify latent needs. • Objectivity (transcending personal viewpoints). • Discerning causes from effects.
11	**The module structure should develop, simultaneously, both soft and hard skills into students.**	The module structure should concurrently develop both soft and hard skills into students. Soft skills, such as teamwork, communication, and adaptability, are crucial for effective collaboration and problem-solving. On the other hand, hard skills encompass technical abilities and specific knowledge to a particular field, such as proficiency in the use of design software, understanding design principles, or mastering manufacturing techniques. For example, a module might incorporate group projects to enhance teamwork and communication skills, while also including technical workshops to improve software proficiency or teach advanced design methodologies. This holistic approach ensures that students graduate with a well-rounded skill set that prepares them for diverse professional environments.	Cultural aspects and soft skills are important as much as technical ones. It is important to balance both sides of such learning aspects to provide holistic modalities for consistent learning.

12	**Modules should foster the development of project management skills.**	Students should effectively manage their project by implementing it according to the plan set at the beginning (i.e., learning objective against assessment method), but at the same time be flexible to returning to earlier stages of the project to verify them.	The design process often requires iterative approaches, where initial ideas may need refinement or improvement as work progresses. Being flexible in revisiting earlier stages allows for better adaptation to changing requirements or the discovery of new perspectives, ultimately leading to better final solutions. Balancing adherence to the plan with flexibility in project management enables effective anticipation of, and response to, changes, resulting in higher outcomes.
13	**Modules should include working with real stakeholders and providing students with full responsibility for gathering feedback from users and stakeholders.**	Working in the field, with real people and their daily problems, leaves an emotional impact that can change one's understanding of the EDI approach. Also, presenting projects to potential final users and stakeholders is crucial to expand the value of projects.	It is important to build awareness among students that the effectiveness of their projects can be verified only by testing them with (real) users. Also, with consistent feedback from users, students can perceive that their work is more valuable and useful, potentially leading to increased engagement.
14	**Modules should include some control stages where the revision of soft skills in communication with users and stakeholders takes place.**	It is essential to gain deeper knowledge about users, which relates to developing soft skills, including: • The ability to include users and stakeholders in the process. • Effective communication and treating users as equal partners.	Students should cultivate the habit of treating people with special needs as equal partners in a project during their education.
15	**Promote a complete self-reflection of gained competencies**	A verification of achieved competences should be carried out through in-depth self-reflection (from students), including an analysis of expectations regarding the achieved results: personal goals, methods of communication, work, and achieved competences.	Soft skills are usually not so obvious for students. That is why it is important that during the educational process students will have space for constant self-reflection and deep awareness of their progress – it will make them more self-confident.

4.3 Teaching and Learning Methodologies for EDI

Consistent with the work performed in A 2.2., this section shows the main criteria used to identify suitable teaching and learning methodologies to properly deliver EDI contents in Design and Design-related fields. Methodologies are contained in Table 2 and discussed against relevant topics such as:

- Effectiveness of considered methodologies against EDI topics and the application for Design and Design-related programmes.
- Suitability of teaching methodologies for adequate use in both digital and online teaching and learning environments.

- Reputation and knowledge, including but not limited to: popularity of the methodologies and its use across different communities of scholars, availability of sources and teaching materials, level of efficiency and effectiveness in achieving consistent EDI-related goals/outcomes.

As per Table 1, Table 3 is organized into a two-layer selection criterion; specifically:

- The FIRST LAYER refers to main methodological elements defining suitable methodologies to work with EDI in both online and studio environments; these include relevant topics for effective delivery of contents within Design and Design-related programmes.
- The SECOND LAYER refers to complementary elements considered as relevant and potentially suitable for the aim of the work.

Table 3 – Two-layer selection criterion to identify suitable teaching and learning methodologies for EDI contents in Design and Design-related fields.

FIRST LAYER – Main elements for the use of teaching and learning methodologies to work with EDI in Design and Design-related fields	SECOND LAYER – Complementary elements for the use of teaching and learning methodologies to work with EDI in Design and Design-related fields

● Compliance with EDI's scopes, missions, and visions, in the following conditions:
  ○ Both online and in studio teaching and learning.
  ○ Either online or in studio teaching and learning.
● (As evinced in D 2.1.1. and D 2.2.1.) Effectiveness of the methodology to work with EDI:
  ○ Capability of the methodology to generate consistent learning into students and staff.
  ○ Capability of the methodology to be used even after the teaching period (i.e., as a professional tool).
  ○ Power of the methodology to generate consistent and unbiased culture and knowledge on EDI.
  ○ Capability of the methodology to generate effective skills, on EDI, such as:
  ▪ Procedural skills.
  ▪ Research skills,
  ▪ Technical skills.
  ▪ Cultural skills.
  ▪ Theoretical skills
● Suitability of the methodology to be applied in several design fields (i.e., Product Design, Architecture, Communication, Service Design, etc.).
● Flexibility of the methodology to be used in different design fields (i.e., Product Design, Architecture, Communication, Service Design, etc.).
● Comparability of the methodology (process, logics, and results – when more methodologies can be used to achieve an equivalent result).
	● Popularity of the methodology across different Design communities.
	● Reputation of the methodology across different Design communities.
	● Easiness of use (for students).
	● Level of distribution (i.e., open access, copyrighted, etc.).
	● Language of available sources (mono-language VS multilanguage).
	● Comparability of the methodology against other popular tools already adopted in the field.

• Quality and quantity of available sources (i.e., books, journal articles, case studies, conference papers, etc.).
• Suitability to use the methodology to work with / to be used by external stakeholders.
• Suitability to support collaborative learning and collaborative design activities.
• Suitability to support diverse nature of projects to be performed, such as:
  ○ Research-based.
  ○ Research-through-Design.
  ○ Creative-led.
  ○ Experimental.
  ○ Student-led VS based on pre-identified design brief.
  ○ Collective VS individual.	

The two-layer method allowed to identify the following 9 suitable teaching and learning methodologies for EDI contents in Design and Design-related fields. These are presented below in Table 4.

Table 4 – Suitable teaching and learning methodologies to properly deliver EDI contents.

	Best Practices	What it is meant (details)	Motivation	Methodologies/Approaches, Categories and Sub-Categories of Toolkits/Tools
1	**Design process**	**Problem-based learning:** Students learn by engaging with and solving real-world problems, using design process methodology.	This method develops problem-solving skills, self-directed learning, and the application of knowledge.	**Suggested Methodologies/Approaches:** Double Dimond; Human-Centered Design (HCD); Design Thinking; Agile Design Process; Iterative Process; Research-through-Design. **Categories of Selected Toolkits/Tools (as per Databases 1,2,3 from D 2.2.1.):** User research; Euristics; Understanding user diversity; Brainstorming; Evaluation; Prototyping (Method cards,ect.). **Sub-Categories and Others Recommended Toolkits/Tools:** Inclusive Design Toolkit (Cambridge University); Inclusive Design toolkit (Microsoft); Operationalizing Inclusive Design (Google, rif. Design Sprint); Inclusive design toolkit (ONTARIO); The Inclusive Design Guide (IDRC, OCAD University); Inclusive Signs (Rossi E.); 18F Method Cards; UNaLAB Toolkit: Tools for Co-creation (EU Project); Liberatory Design Toolkit (Stanford University); Digital Ethics Compass Toolkit (Danish Design Centre).

2	**Design management**	**Project-based learning** with fostering management skills involves guiding students through the project's process of development from concept to implementation, though emphasizing design principles and management strategies.	This method develops an understanding of the commercial context of project implementation.	**Suggested Methodologies/Approaches:** Human-Centred Design; Inclusive Design; Design Thinking; Live Projects (with commercial stakeholders); Field Analysis. **Categories of Selected Toolkits/Tools (as per Databases 1,2,3 from D 2.2.1.):** Managing the process; Design process; Design Process Checklist; Worksheet. **Sub-Categories and Others Recommended Toolkits/Tools:** Inclusive Design Toolkit (Cambridge University) - Sub tool: Design process checklist. Process Management tools.
3	**Individual approach toward student**	**Students–led teaching** where students are encouraged to ask questions, conduct investigations, and develop solutions based on their curiosity, interests, and readiness.	This method promotes active learning, critical thinking, and independence. It allows to recognize students' predispositions, openness, and readiness to tackle different levels of EDI issues.	**Suggested Methodologies/Approaches:** Human-Centred Design; Inclusive Design; Design Thinking. **Categories of Selected Toolkits/Tools (as per Databases 1,2,3 from D 2.2.1.):** Understanding User Diversity; User Capability; Personas Methods; User Research; Empathy trial (tool); Envisioning tool; User Capability; Exclusion calculation. **Sub-Categories and Others Recommended Toolkits/Tools:** Inclusive Design Toolkit (Cambridge University) - Sub tool: Digital personas; (C.3) Microsoft: Inclusive design toolkit - Sub Tool: Inclusive Design for Cognition Screeners.
4	**Experiential approach**	**Learning through experience,** often involves hands-on activities, simulations, experiments, or fieldwork.	Experimenting helps students to better understand human diversities (e.g., simulations and trials led by students that create disabling scenarios to experience) and reduces the gap between theories and practice. In this way, students can experience first-hand difficulties as final users do.	**Suggested Methodologies/Approaches:** Human-Centred Design; Inclusive Design; Design Thinking; System Thinking; Iterative Process; Research-through-Design. **Categories of Selected Toolkits/Tools (as per Databases 1,2,3 from D 2.2.1.):** Understanding user diversity; Empathy trial (tool); Envisioning tool; User Experience; Cognitive demands. **Sub-Categories and Others Recommended Toolkits/Tools:** Inclusive Design Toolkit (Cambridge University) - Subtools: Digital Pesonas and Family set Personas; Capacity Loss Simulation; Exclusion Calculation,

				Understanding User Diversity.
5	**Case studies**	**Using real-world scenarios to facilitate the learning processes**. This method encourages students to analyze and discuss complex situations, make decisions, and solve problems as they would do in real-life contexts.	By examining specific cases, students develop critical thinking, analytical, and decision-making skills.	**Suggested Methodologies/Approaches:** Human-Centred Design, Inclusive Design, Design Thinking; Scenario-led Design. System Thinking. **Categories of Selected Toolkits/Tools (as per Databases 1,2,3 from D 2.2.1.):** User research; Social topics; Ethics by Design; Understanding user diversity; Evaluation; Testing. **Sub-Categories and Others Recommended Toolkits/Tools:** Inclusive Design Toolkit (Cambridge University) sub-tool: Digital Pesonas and Family set Personas; Inclusive Design toolkit (Microsoft); (C.1) Sub Tool: Inclusive activity cards; EDI by Design Cards (Nottingham University).
6	**Workshop methodology**	**Workshops facilitate intensive engagement through focused tasks within a pre-definite period. It can include the use of artifacts like frameworks, cards specially designed for EDI education, etc.** Workshops involve interactive activities, group discussions, learning from each other and hands-on exercises, allowing participants to actively engage with the material and apply what they learn in a practical context. It also can include teaching through questioning, where the teaching staff poses questions to stimulate critical thinking and draw out ideas and underlying assumptions.	Workshops are used to enhance consistent learning, to foster collaboration, and to provide opportunities for discussion as well as to exchange ideas, perspectives, and approaches. This allows students (and teaching staff) to work effectively with interdisciplinary groups of peers and build empathy among participants.	**Suggested Methodologies/Approaches:** Human-Centred Design, Inclusive Design, Design Thinking; Live Projects (with commercial stakeholders). **Categories of Selected Toolkits/Tools (as per Databases 1,2,3 from D 2.2.1.):** Co-design; brainstorming; Design card-based tools. **Sub-Categories and Others Recommended Toolkits/Tools:** Inclusive Co-design Toolkit (Yokota); Inclusive Cities Co-design Kit (IDCR); Inclusive Design toolkit (POLIMI); Microsoft: Inclusive design toolkit - Sub Tool: Inclusive activity cards; Inclusive Signs (Rossi E.); EDI by Design Cards (Nottingham University); Cards for Humanity (FROG Design); Inclusive Design Works (google).

7	**Inclusive learning environment**	**This approach empowers students to express themselves according to their interests and learning styles, thus enhancing the effectiveness of teaching and learning.** The approach can be delivered by diverse types of presentation methods and encouraging active participation. Students are engaged in various activities such as empathic simulation exercises, on-site surveys, and discussions. They are also given the autonomy to choose tasks and processing methods, either individually or in groups, and to select their preferred format for final elaboration and presentation, be it written, audio-visual, or graphical.	This approach empowers students to express themselves according to their interests and learning styles, thus enhancing the effectiveness of teaching and learning.	**Suggested Methodologies/Approaches:** UDL Method (Universal Design Learning Method); Inclusive Design. **Categories of Selected Toolkits/Tools (as per Databases 1,2,3 from D 2.2.1.):** User Experience; Cognitive demands; Co-creative nature-based solutions. **Sub-Categories and Others Recommended Toolkits/Tools:** Microsoft: Inclusive design toolkit - Sub Tool: Inclusive Design for Cognition: Worksheet; and Sub Tool: Inclusive Design for Cognition Screeners; UNaLAB Toolkit: Tools for Co-creation (UNALAB); EDI Toolkit for Researchers (teachers) by Newcastle University; EDI Faculty Toolkit (Humber College's); Tools for taking action (Stanford University); IDEO - Design Thinking for Educators; SNOW Inclusive Learning & Education- (IDCR, OCAD) [For more information see database 2 and 3 from D 2.2.1.].
8	**Learning by doing**	**Learning by doing emphasizes hands-on experience and active participation in the learning process.** Rather than passively receiving information, students engage directly in activities, experiments, or real-world tasks.	This method helps learners develop practical skills, understand concepts (more deeply), and retain knowledge more effectively by applying what they have learned.	**Suggested Methodologies/Approaches:** Human-Centred Design, Inclusive Design, Design Thinking; Iterative Process; Research-through-Design. **Categories of Selected Toolkits/Tools (as per Databases 1,2,3 from D 2.2.1.):** Understanding User Diversity; User Capability; Personas Methods; User Research; Empathy trial (tool); Envisioning tool; User Capability; Exclusion calculation; User Experience; Cognitive demands. **Sub-Categories and Others Recommended Toolkits/Tools:** Not Applicable

9	**Collaborative work among students**	**Students work together in groups to solve problems, complete tasks, or create projects.** This method emphasizes teamwork, communication, and peer learning. It allows also for mixing diverse groups of students.	Collaborative work enhances the design process for EDI issues by bringing together diverse skills and perspectives: • Diverse Perspectives: incorporating varied viewpoints helps identify and address a wider range of EDI issues. • Enhanced Creativity and Innovation: Collaboration fosters creativity, leading to unique and effective solutions. • Improved Problem-Solving: leveraging collective expertise improves the understanding and resolution of complex EDI challenges. • Empathy and Understanding: Collaborative efforts increase empathy and awareness of different experiences. • Cross-Disciplinary Insights: Including members from various fields provides a comprehensive approach to EDI issues (if students are from different domains).	**Suggested Methodologies/Approaches:** Human-Centred Design, Inclusive Design, Design Thinking; Peer reviews; Collective Moments of Reflections (CMR); Thinking Aloud methods. **Categories of Selected Toolkits/Tools (as per Databases 1,2,3 from D 2.2.1.):** Co-design **Sub-Categories and Others Recommended Toolkits/Tools:** Inclusive Design Toolkit (Cambridge University); Inclusive Design Toolkit (Microsoft); Inclusive Design Toolkit (ONTARIO); The Inclusive Design Guide (IDRC, OCAD University); Microsoft: Inclusive design toolkit - Sub Tool: Inclusive Design for Cognition: Worksheet; and Sub Tool: Inclusive Design for Cognition Screeners; UNaLAB Toolkit: Tools for Co-creation (UNALAB); EDI Toolkit for Researchers (teachers) by Newcastle University; EDI Faculty Toolkit (Humber College's); Tools for taking action (Stanford University); IDEO - Design Thinking for Educators; SNOW Inclusive Learning & Education (IDCR, OCAD) [For more information see database 2 and 3 from D 2.2.1.]. Moreover: *Focus collaborative tool such as: Operationalizing Inclusive Design (Google, rif. Design Sprint); Inclusive Design toolkit (POLIMI); Social Impact Design SID Toolkit (K. Strateji).*

5. Interpretative Map

An interpretative map is presented in this section of the report. The map (Table 5), in the form of a table/matrix is intended as a practical correlation space that matches the pre-identified best practices in terms of contents on EDI (section 4.2.) and the most suitable methodologies to perform them (section 4.3.).
Based on the interview analysis and benchmarking prepared in D 2.1.1, it was possible to create effective links that provide a comprehensive approach to implementing specific EDI content in the educational process.
For each identified content on EDI, there are several types of methods that cover all necessary aspects and allow for diverse student activities, while adequately addressing all issues and providing exercises to train specific skills. For example, the content named *"The modules should include working with real stakeholders and providing students with full responsibility for gathering feedback from users and stakeholders"* can be achieved by using three teaching methods:

- Design methods (Problem-based learning): This approach enables students to learn not only the design process methodology but also why it is important to include real users to obtain valuable information and use it in their design solution.
- Design management (Project-based learning): With this method, students learn how to plan the inclusion of real users' participation and see how they can utilize collected data.
- Experimental approach: Through this approach, students practice their skills by conducting research methods in the field and interacting with real users.

Table 5 – Interpretative map.

Design-oriented contents on EDI	**TEACHING METHODS**								
ATTITUDES									
	Design process	Design management	Individual approach toward student	Experiential approach	Case studies	Workshop methodology	Inclusive learning environment	Learning by doing	Collaborative work among students
The content of modules should be flexible to accommodate the students' readiness to tackle different levels of EDI issues.			**x**		**x**				
Modules should create a safe emotional and mental space supporting effective learning processes, to go beyond students' initial expectations on EDI (i.e., preventing biased culture).				**x**		**x**	**x**	**x**	
Modules should refer to understanding the role of the designer and its limitations.		**x**			**x**				

KNOWLEDGE									
	Design process	Design management	Individual approach toward student	Experiential approach	Case studies	Workshop methodology	Inclusive learning environment	Learning by doing	Collaborative work among students
Modules should present that EDI is an integral part of the design process.	x				x				
Modules should introduce the state of knowledge about the EDI approach as an ongoing process of defining its scope.					x	x			
Modules should include assignments that focus on a critical approach towards current standards and tools in the EDI area.			x			x	x	x	
Modules should introduce the design as an intervention in a specific environment, or context (context-based creative practice).	x	x		x					
Modules should introduce some (relevant) aspects of knowledge from the social sciences					x				

SKILLS									
	Design process	Design management	Individual approach toward student	Experiential approach	Case studies	Workshop methodology	Inclusive learning environment	Learning by doing	Collaborative work among students
Modules should present the universal use of methods used in the design (design process), that can address different aspects of the EDI approach.	x			x	x			x	
The use of various research methods allows to clearly identify problems in the EDI area.	x			x				x	
The module structure should develop, simultaneously, both soft and hard skills into students.							x	x	x
Modules should foster the development of		x			x				x

Quantitative analyses of best practices: Contents and teaching methodologies

project management skills.									
Modules should include working with real stakeholders and providing students with full responsibility for gathering feedback from users and stakeholders.	**x**	**x**		**x**					
Modules should include some control stages where the revision of soft skills in communication with users and stakeholders takes place.								**x**	**x**
Promote a complete self-reflection of gained competencies							**x**		

6. Conclusions

The main result of the report is the identification of best practices in terms of:

- Design-oriented Contents on EDI (see 4.2.)
- Teaching and Learning Methodologies for EDI (see 4.3.).

The result is the Interpretative map (see 5) that was created based on the matching of the above-mentioned contents and methodologies. From this, it is possible to make some considerations.

Best practices: Design-oriented Contents on EDI

Based on the analysis of interviews, it was possible to extract some specific approaches from modules and to combine them into a comprehensive list of best practices. This list emphasizes the importance of cultivating specific attitudes, acquiring knowledge, and developing skills among students. It covers various aspects of students' learning journey, particularly their preparedness for addressing complex and emotionally challenging issues.

Bringing up EDI issues in response to student readiness is crucial for fostering resilience among students, enabling them to make a genuine impact as professionals.

Competencies are equally important in all those conditions where students learn effective research methods, especially those involving user participation, and how to plan the entire process while being willing to experiment and delve deeper to uncover root causes. The final part involves evaluating acquired competencies – students need to be self-aware of their development, strengths, and areas for further improvement.

From this, it was also possible to extract some recommendations for the whole design curricula improvement, which are presented in Table 6 below.

Table 6 – Recommendation for design curricula.

Recommendation for design curricula	
General recommendation	**What it is meant**
EDI is introduced gradually, with a focus on developing hard skills, to increasing students' responsibility and independence in conducting their projects.	EDI issues and approaches should be included in every module and presented to students in a varied modality by considering its intensity in terms of learning curves (i.e., appropriateness for the year and the maturity level of students). The EDI issues should be introduced to students gradually since the beginning of their career. Alongside acquiring hard skills, they should also gain an understanding of the ethical dimensions of the Design discipline. Students should also build an understanding that as designers, they are advocates of these values. In the first year, we should provide examples, tools, and methods to facilitate critical observation. In later stages of education, we should provide students with opportunities for their own investigation to identify problems.
Linking theory and practice.	The theoretical knowledge acquired through modules needs to be validated during the following year(s) of study, wherein it is applied practically, with the involvement of the teaching staff from the theoretical module.
Fostering an awareness of EDI among students and academic staff alike.	Triggering awareness on the different aspects of EDI is important as much for teachers as for learners so that it is possible to generate homogenous knowledge that can be shared within whole groups of learners (and this may remain in the future as a best practice to be used).
Interconnecting modules: students can execute a single project across multiple modules.	Projects related to EDI issues are very complex and require a comprehensive approach, so it is important that when working on such projects, students can 'flow' between subjects and studio modules in which a given topic is implemented. At the same time, considered from many sides.

Best Practices: Teaching and Learning Methodologies for EDI

By compiling the database and analysis from Activity 2.2 report and insights from interviews, a list of best practices that address various teaching and learning methodologies, promoting diverse student activities and inclusive learning environments, was produced. The work allowed to identify 9 best practices, defined and supported by a list of examples, and divided into a three-layer classification:

1. Suggested Methodologies/Approaches
2. Categories of Selected Toolkits/Tools
3. Sub-Categories and Other Recommended Toolkits/Tools.

This approach allowed to present a comprehensive spectrum of possibilities for implementing specific, identified approaches.

The interpretative map

The interpretative map linking Design-oriented Contents on EDI (4.2) and Teaching and Learning Methodologies for EDI (4.3) provides teaching staff with a perspective on how to structure their programs and what kinds of methods can be employed to achieve desired effects.

The interpretative map is a practical tool designed to help teaching staff delivering EDI contents effectively by aligning best practices with the most suitable teaching methodologies. It also facilitates informed decision-making, enhancing teaching strategies, and ultimately contributing to a more inclusive and effective educational environment.